

JOURNAL of FARM ECONOMICS

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RELATING RESEARCH IN AGRICULTURAL ECONOMICS TO OTHER FIELDS OF AGRICULTURAL SCIENCE¹

P. V. CARDON

UTAH AGRICULTURAL EXPERIMENT STATION

Public sentiment, under the pressure of financial stringency, is forcing the evaluation of governmental functions, and the publicly supported agricultural research agency is being weighed in the same balance with other agencies whose respective contributions, actual and potential, may determine to what extent public support will be forthcoming in the future. With respect to the recorded achievements of agricultural research during the last fifty years particularly, many able and convincing statements have been made, attesting the high type of service rendered and supporting the claim that it has fully justified the financial support which has made it possible. So it is neither to defend nor to project the past that this paper is offered. My purpose is to discuss means whereby agricultural research may be made still more effective in the years ahead.

This paper therefore relates less to the task of differentiating the various fields of research and more to the task of integrating them in their relation to the compelling need for adjusting research to the demands of agriculture in its modern setting. Heretofore, accompanying the rapid growth of agricultural research and the marked tendency toward specialization, much time and effort have been spent trying to separate and to keep distinct the specialized activities of an ever-increasing number of workers. This, in my opinion, has tended to promote dissociated rather than coordinated research. I prefer to regard research in any specialized field not as something apart from but as something within a common field calling for concerted activity. Hence my discussion recognizes at

¹ This paper was read at the Twenty-fourth Annual Meeting of the American Farm Economic Association, Philadelphia, December 29, 1933.

once the inter-relationship of the various sciences and seeks an understanding of their relative position in the structure of the research agency as it may have to function in the new order of things.

Three needs of agricultural research, if it is to meet future requirements, are (1) clarification of viewpoint, (2) closer coordination of effort, and (3) greater mobility in the research force.

There are two approaches to a consideration of viewpoint in agricultural research: One is that of the researcher himself; the other, that of those whom research is intended to benefit. The former is defined by technical training and by the experience gained in the exercise of that training; the latter gains direction from the recognized need in human affairs for guidance in the quest of individual, group and social welfare. The one represents the viewpoint of the guide; the other the viewpoint of the guided.

Agricultural research during the last fifty years, productive as it has been of valuable information, has represented, nevertheless, a miscellany of ideals modified through the years by various motives which have arisen from causes commonly recognized. Chief among these, perhaps, has been the rapid physical expansion of this type of research, induced by national policies which, themselves lacking complete clarity of purpose, have failed to give definite direction to the research they have fostered. Project objectives usually have been defined by the specialized interests of individual researchers, or by those of the director of research who, in numerous instances, nurtured a specialized interest in science long before he assumed the multifarious duties of director. Consequently, there has persisted a lack of coordination of these objectives, and this lack has engendered confusion of viewpoints. This confusion, in turn, has made quite impossible the conduct of research in full confidence that it served in the highest possible degree not only the farmer but agriculture as a whole and society at large.

As the party to be benefited and not as the researcher, the publicly supported research agency may hold the point of view of an individual, a composite of views common to a group of individuals, or a still more inclusive viewpoint concerned with the place of agriculture in the social structure. Holding to any or to all of these points of view, the research agency will regard itself as a public service institution, not as one free to browse at will in uncharted fields. It will grant that original research has its place in such an institution, and that the especially qualified researcher in "pure science" will continue under its roof to contribute notably to an ever-expanding body of facts; but it will stress the belief that most

of the publicly-supported agricultural research of the future will be aimed at problems arising directly out of agriculture's more pressing needs or, indirectly, from public recognition of an urgent need for properly relating agriculture to social welfare.

There is no evidence at hand to show that a consistent effort has been made thus far in agricultural research to distinguish individual from group and social welfare, in either the planning or the prosecution of that research. It is probably not far from the truth to say that, for the most part, projects have been planned and carried through to the publication of results with serious thought being devoted chiefly to the limited objectives and the methods of procedure peculiar to the respective projects; and to the analysis and interpretation of the data recorded, almost as if each project enjoyed detached completeness. Beyond that, in many instances, hope has been the father of action—hope that sometime, somehow, the results would benefit the farmer, regardless of their group or social effect. When the customary presentation of results in published form failed to reach the farmer in a way to influence his practices as rapidly as may have seemed desirable, institutional plans were adopted for getting the results into farm practice more promptly by means of the extension agent. In this procedure also it appears that relatively little thought was given to the possible group and social consequences of improved individual efficiency.

Efforts to draw fast lines of distinction between individual interests, on the one hand, and group or social interests, on the other, would be as confusing as efforts to distinguish sharply between darkness and daylight, or between heat and cold. They are different degrees of the same thing, and each may be the resultant of continuous, although imperceptible, changes in the other. It is important, however, to recognize the fact that there *is* a difference.

"As an individual producer," says the farmer, "my immediate interests, for intensely personal reasons, are selfish; and my production problems are largely problems of management. As a manager, if I act rationally, I seek to combine the factors of production in such a way as to insure to me the highest profit from my farm business. To do this I seek information which will help me to produce at the least possible cost, information which will enable me to increase, if price justifies, either the volume or the quality of my produce, and to obtain the highest possible price for what I have to sell. Hence, I am concerned, in the first instance, with land—if not with how much land, then with how to keep what land I have fertile or in good tilth; with high-yielding crops, and high-producing animals; with labor-saving devices, methods of pest and disease

control, and with everything else which promises to increase my efficiency as a producer. In the second instance, I am concerned with knowing how much people want of what I may produce, when they want it, how long they may want it; what competing areas are doing to satisfy that want, and whether there is a readiness and willingness to pay.

"Seeking this information piecemeal, and from various sources, I get it piecemeal, and in various forms, leaving me to do considerable experimenting on my own farm and in my own way. If I organize the farm business so that I may realize the highest-profit combination and then operate the business efficiently with reasonable regularity, I am a successful farmer whose example is cited as worthy of emulation by all other farmers similarly situated, regardless of whether or not such citation bodes ultimate ill to the group which I, as an individual, help to comprise. If I fail to find or operate successfully, at the highest-profit combination, I remain one of the majority; or, in the extremity, I sink to the lowly level of the marginal farmer. But notwithstanding my natural level in the farm group, and no matter to what level I may attain, as a farm manager I continue to seek ways and means of getting the most profit from my employment of what resources I possess."

If the foregoing presents fairly accurately the viewpoint of the individual producer, it prompts a question as to whether or not his persistent demand for facts promising improvement in his efficiency as a farm manager has been a dominating influence in the determination of objectives in agricultural research and in the methods used to get the results of research adopted in farm practice. Is it not possible in other words that, in an effort to satisfy his immediate demands, the research agency has adopted the point of view of the individual producer? To do so, in and of itself, would not necessarily be an error; it might on the contrary, be an advisable thing to do deliberately, so long as the viewpoint of the individual is not retained to the exclusion of wider points of view. Breadth of view, in this connection, is not secured by simply increasing the number of individuals involved; the point of view may still be narrow although adopted by thousands of individuals. The wider viewpoint is attained only when individuals are seen no longer as individuals, but as groups of individuals.

"Insofar as we may harmonize our individual interests in behalf of the group," says the thinking member of the farm group, "we shall enjoy mutual benefits from the results of agricultural research in a measure not otherwise attainable; but that harmony of interest is not likely to be realized in the absence of conscious

effort. It is in the encouragement and enlightenment of such effort that agricultural research in the future could be of far greater service to our group than it has ever been in the past. In other words, we farmers have become group conscious, if not yet socially minded; and, while we still look upon our farms as means of satisfying our individual desires, experience has taught us that our selfish ends in the long run are served in proportion to group welfare. Hence, we individuals who comprise the farm group should like to see, as far ahead as trained minds may show us, the possible or probable consequences of our activities."

Even if the research agency were able always to take account of the economic aspects of its project work in a manner to satisfy farm group requirements, it would still face problems of tremendous importance to agriculture, whose solution calls for research conducted from the still broader, social point of view. At this point the group is no longer to be considered as a separate and distinct unit, but as one which, with others, goes to form a social entity. Here problems are no longer farm problems only, but problems faced by all groups of society. Here it is not the producer alone whose interests are involved, but the consumer as well. Here the farm taxpayer stands with the urban taxpayer and each is concerned with how his tax money is spent.

"In becoming group conscious," say the farmers, "we have come to realize also, although still vaguely, that the welfare of our group is somehow affected by the activities of other groups which go to make up our society; and the research agency could be of further service to us in helping to clarify the interrelationships of these groups. What, for example, are the governmental functions by which all groups are affected? What are the costs of these functions, and how are the costs distributed? What are the sources of supporting revenues, and to what extent do the different groups share them? How are these funds administered, and on what basis? To what extent may there be adjustment within and among farmers and other groups of society; and is it not as much a social problem to know which of these functions are marginal and which are not?

"With respect to these and other social problems affecting agriculture, we are wondering if research could be planned on a sufficiently broad basis to provide for the interrelationships of all groups affected and to determine what aspects of it lie within the province of agricultural research. We seek, in brief, a better understanding of the place of agriculture in the social structure.

"Finally," the farmers conclude, "we have learned that there are

important relationships between ours and other societies which, in ways not clear to us, affect our individual, group, and social welfare. To what extent agricultural research could provide for the study of tariffs, foreign trade, and other matters arising from international relations, we do not presume to know; but we are confident that as the research conducted makes plainer the economic as well as the physical and biological phenomena involved in agricultural production, we producers will come inevitably to a more comprehensive understanding of not only national but also the international influences bearing upon our farm practice."

It might not be possible ever to reconcile all the points of view here mentioned, if each were to be rigidly interpreted; but it is possible to make a closer approach to a reconciliation of views than has been apparent in agricultural research in the past.

The economist already has rendered agricultural research a distinct service in this connection. To him more than to any other researcher credit is due for having distinguished and, at various times, emphasized differences in the effect upon farmer and farm-group interests of the results of research in the physical and biological sciences; and to him is due, I believe, credit for having awakened among agricultural researchers generally an appreciation of those differences together with an increasing interest in recognizing them as guides to further research.

The second great need in the adjustment of agricultural research is better coordination of effort—coordination within the research agency itself, and coordination as between the functions of this agency and the functions of other closely-related, publicly-supported, or semi-public agencies.

In order to effect coordination of effort in the light of the inter-relationship of the sciences, however, it is essential to recognize and provide for the points of contact among the sciences. Provision for these points of contact may be made in every stage of procedure in research, from the conception of the problem through to the analysis and the interpretation of results.

If we may think of the agricultural research agency as a great wooden wheel, we may regard its various structural parts as representing the functions and relationships of the different sciences comprising the agency. The hub of the wheel, the director's office, rides upon a shaft which is connected with other wheels in the set-up of the institution of which the research agency is a part; and as that shaft revolves all wheels move in proportion, being geared to the same propelling force.

Radiating from the hub of the wheel are the spokes, representing

various units of the research agency. The number of spokes, their diameter, length, and strength vary according to the size and structural values of the greater mechanism of which the wheel is a part. In any event, each spoke has its particular function with respect to the other parts of the wheel; and the strength of the wheel is the strength of each spoke.

Just as the spokes radiate from the hub, so their relative position is maintained at the periphery by aid of the felloe which may be regarded as holding the spokes apart while at the same time helping to hold them together. It may be likened to the inter-departmental interest in coordination and cooperation found to be exerting an effective influence on the work of any successful research agency.

But hub, spokes, and felloe fail to afford the full strength desired in the kind of wheel we have in mind, if there is nothing lying beyond and around the spokes and the felloe to bind them together and make possible the realization of all the strength inherent in the combined whole. There is need, in other words, for a tire on this wheel. It is to that indispensable position that I am disposed to assign farm economics.

By thus assigning to farm economics an encompassing position in the wheel, rather than to the position of a spoke within the wheel I am neither under-valuing the importance of each spoke, nor over-valuing the tire. Without the tire the wheel would crumple; without the spokes and felloe, the tire would become a hollow circle, likely to flatten out under any heavy load placed upon it.

Justification of the foregoing assignment of position in this wheel can be established after a fuller consideration of the functions of the various units of an agricultural research agency as I conceive of those functions.

We may begin with any department in the physical or biological groups, as, for example, irrigation engineering. This department is concerned with sources of water-supply, their development, the measurement and distribution of water and its efficient utilization upon the land. The research problems confronting this department, therefore, relate either to surface water-supplies, as in mountain streams, to be distributed by gravity, or to underground supplies to be pumped to the land surface for distribution.

These problems relate also to the structural requirements of dams, relative efficiencies in pumps, types of measuring and distributing devices, soil and water relationships, and other factors affecting the movement of water through soils. The distinguishing character of these problems is sufficiently clear to make them fall

plainly within the departmental grouping by which they are designated. But as research is carried far enough to indicate the possible use of the results in irrigation practice, the distinguishing character of the engineering problems becomes less pronounced and the interest of the researcher is modified by the influence of research in other departments, just as each spoke finds support in the fellow of the wheel.

Water-supply is governed by climatic, topographic, and geologic factors, a knowledge of which is basic to the engineer's research, and yet that knowledge is derived through the research of climatologists, topographers, physiographers, and geologists. He has learned that he must take account of the work of foresters and range managers and livestock farmers if he would have a vegetative cover on his water-shed to help avert undue erosion and consequent damage to his irrigation system. He has learned also of the importance of soil type in its relation to efficiency in water use, and he knows that the chemical composition of water as well as of soil is of tremendous importance as a factor determining the long-time use of the land irrigated. He is aware of the need for knowing the relative value of different crops adapted to the environmental conditions characterizing his irrigation enterprise and the cultural methods suited to their requirements. He recognizes the importance of crop improvement, weed control, and soil fertility maintenance. He is aware of the need for suitable livestock enterprises and proper management methods; and he knows that success in crop and livestock production must be safeguarded by effective methods of insect pest and disease control. He knows from bitter experience also that regardless of the degree of perfection in the engineering aspects of the irrigation enterprise and the success of the production methods adopted, the destructive costs of litigation over water-rights might defeat the entire undertaking. He sees, in other words, that without taking account of all the physical, biological, and social factors influencing the success of his irrigation project his engineering accomplishments might prove futile.

We might examine in a similar manner the work of any other department in the research agency and find the same inter-relationships of the various sciences and the same points of contact. The agronomist sees the importance of water-supply and its efficient utilization in crop production. The animal husbandman knows that only upon proficient crop culture can a sound livestock industry be founded. The soil bacteriologist with the soil physicist sees the need of understanding water and soil composition relationships, and the entomologist and pathologist see that their fields of re-

search are moulded by the production experiences of the men who use soil and water in crop and animal production.

Nothing is to be gained by multiplying examples. Each department, like its respective spoke in the wheel, is but a part of the whole—anchored in the hub and tied at the felloe to every other spoke. All are concerned with the same thing but in a different way.

Clearly, not every department bears the same relationship to all other departments that it may bear to some. There is a logical grouping and the closer relationship of departments within these groups is indicated by their relative position within the wheel.

The single exception is farm economics, which has a point of contact with every other department at the outer ends of the spokes, just as the director's office has a contact at their inner ends. As the research of each department is extended it comes invariably to the point where cost, price, and profit must be considered and it is at this point that farm economics binds them together, as the tire of the wheel binds its spokes. At this point the farm economist occupies the same relative position in agricultural research as that occupied in farm practice by the farmer. He is the research entrepreneur, whose concern lies in the relation and combination of facts conducive to profitable procedure; just as the farmer's concern lies in the selection and combination of factors most likely to result in profit from his farm business. No other unit of the research agency occupies a similar position. Conversely, no other unit of the research agency is more dependent upon all other units for its strength.

The diameter of the single wheel we have selected as representing the agricultural research agency may vary, but this does not change its structure. If it is designed to influence only the efficiency of the individual farmer, its diameter will be small. If the welfare of the farm group is contemplated, the spokes will be longer and the tire of greater circumference. But in either event, the inter-relationship of the parts will not change, and the wheel will bear a direct relationship to other wheels comprising the mechanism which, let me repeat, is designed for public welfare.

The peculiarity characterizing this wheel is the variability of the materials found in its construction. It is a product of slow growth and as spokes have been added from time to time their addition has necessitated not only the use of materials at hand but changes in the position of all spokes with respect to both hub and felloe. This has resulted in a great amount of cutting and fitting in order that the balance of the wheel might be preserved. It does not follow

that with the addition of each spoke the wheel has been strengthened; indeed, it is possible that replacement of some spokes with spokes of stouter stuff might have lent greater strength than the addition of still other spokes—and it is conceivable that, even now, fewer and better spokes would make the wheel more useful; that a re-setting of the tire would make the wheel stronger. It is essential, however, that regardless of the number and quality of spokes, their inter-relationship and their position with respect to hub, felloe, and tire be preserved.

Thus far we have considered only the internal structure of the wheel. Similar consideration should be given the relation of this wheel to other wheels in the institution of which the research agency is a part and as between various other agencies in order to effect full coordination. This calls first for a definition of the research agency's function, especially as it relates to that of other public agencies, as the Extension Service and the Board of Agriculture, as well as to semi-public, farm, or other industrial organizations. Its function should be clarified by the research agency itself, but more than this it should be understood by other agencies so that there could be no misunderstanding of the place of research in the public's accepted scheme for agricultural advancement.

The third need of agricultural research for future effectiveness I have listed as greater mobility in the research force. I would avoid in future, as far as possible, the common experience encountered in the face of emergencies of having the research agency express regret that it cannot render the service asked of it because of its funds being already allotted. An extensive physical plant usually has first claim on the agency's funds, and second claim is held by projects long under way in which much money has been invested. These projects it is argued, must be continued in order that there may be derived from them the benefits which should flow from the investments they represent.

The fullest degree of flexibility and mobility may not be possible of complete realization, it is true, because of still other factors, contributing to rigidity in the research agency, especially, those attendant on problems of personnel. The human factor, subject to relatively little change, must always be taken into account and must always be handled in the light of facts revealed by a study of particular cases. This puzzling aspect of the problem might be relieved if at the outset researchers were employed with the understanding that their particular training, of importance in connection with the particular research project in hand, might not be required after the completion of that project. Such a plan, of course

would meet at once with proper complaint about the uncertainty of employment and this complaint alone would make the plan objectionable. So while there is much to commend the thought that agricultural research might be greatly strengthened by placing the research agency in a position to employ the kind and quality of help needed as problems arise, freedom of action in this respect is prevented partly because of indisposition on the part of the public and its administrative officers to place men of science on the common laborers' plane of uncertain employment, and partly because of the effect such uncertainty would have upon the character of service rendered by the researcher.

Despite this inescapable and unwieldy personal problem I am of the opinion that as a result of the pressure of the newer demands in agricultural research greater adaptability to the changing scene will be found in future among researchers, possibly as the result of experience, in case of older workers, and partly as the result of more suitable training, in the case of younger workers. These things combined, in my estimation, will reduce the relative immobility which arises from over-specialization and over-departmentalization in the research force.

In advocating greater flexibility and greater mobility in the research force I am not unmindful of the danger of weakening research, but I cannot feel that weakening necessarily would follow as a consequence of greater mobility. Indeed, I am of the opinion that the possibility of improvement in this direction is so great as to justify every effort made to keep the publicly supported research agency abreast of and adjusted to agriculture's requirements.

Clearly the three great needs of agricultural research, as I have herein discussed them, must be considered jointly if each is to be fully satisfied. Clarification of viewpoint will render possible a closer coordination of effort and together they will point the way to greater mobility. But neither mobility nor coordination could be effected satisfactorily in the absence of clarity of viewpoint. Likewise, to clarify viewpoint would gain little in the absence of coordination, flexibility and mobility.

It is equally plain that efforts to distinguish between the various agricultural sciences are futile insofar as improving the position of agricultural research is concerned. The task ahead of the research agency is to recognize inter-relationships of the various sciences and to determine their relative position in the research structure. With this accomplished, agricultural research can be adjusted to meet effectively the requirements of the future.

REORIENTING RESEARCH IN AGRICULTURAL ECONOMICS¹

E. G. NOURSE

BROOKINGS INSTITUTION

If one is to answer with any wisdom the question of the desirable reorientation of research in the future, he should prepare himself by getting in mind as clearly as possible the trends which it has already shown. With this in mind I directed a letter of inquiry to each of the agricultural experiment stations which has a section devoted to this work. I also put a similar set of questions to the men in charge of research work in the Bureau of Agricultural Economics and the Farm Credit Administration. Viewing the latter organization as the residuary devisee of the Federal Farm Board, I suggested that their review should run back to 1929. Finally I asked Professor John D. Black to give me a memorandum of the impressions as to trend of research activities which he has derived from his long and intimate contact with the Scope and Method project sponsored by the Social Science Research Council.

The responses to these inquiries were both prompt and thoughtful. While they do not lend themselves very well to tabular summarization, I shall at least attempt to condense the impressions which they convey on three points.

(1) Out of 41 replies, 34 which could be tabulated indicated that research work in at least some phase of agricultural economics began as much as ten years ago in 23 instances, 1 began in 1924, 4 more in 1925, 5 in 1926, and 1 in 1928.

(2) As to financial support, the maximum in 3 of these 34 cases was attained in 1928, in 6 cases in 1929, 8 in 1930, 10 in 1931, and 7 in 1932.

(3) Out of 35 replies giving figures as to the amount of support, all except 4 showed reduction in support funds at present—generally substantial, although 3 lucky men got off with cuts of only \$124, \$340, and \$488 respectively. Three budgets were continued this year without change, and one man claims \$765.60 more than in the year of maximum support! Taking the total funds of the first reported year as 100, the total of the maxima would be 267 and the total for the current year 214.²

¹ This paper was read at the Twenty-fourth Annual Meeting of the American Farm Economic Association, Philadelphia, December 29, 1933.

² Only one reply suggested that present reduction in support was due to a decline of interest in economic research work, although several mentioned decline of interest in particular types of studies. One indicated political pressure as a cause of curtailment. All the rest ascribed it to the effect of the depression in curtailing state appropriations or, in a few cases, to the inability of cooperating organizations or individuals to continue their financial contributions on the same scale. Replies from five states specifically indicated an increase of interest in these lines of work, and this was the testimony also of the U. S. Bureau of Agricultural Economics. Two indicated that the cuts had been less severe on agricultural economics than on

As compared with experiment station funds, the financial support of the Bureau of Agricultural Economics showed a less pronounced increase between ten years ago and the peak year (1932) and a somewhat sharper decline since. Starting with 100, the index of financial support rose to 154 at the peak and now stands at 99. Even today the annual bill for agricultural research, state and national, is well over 2 million dollars.³ The amount of money involved is ample excuse for our pausing here to consider whether in administering these funds we are allowing research to follow in old ruts or whether we are blazing trails into promising new territory. If so, are we at the same time keeping the old and permanently useful highways in a state of good repair and profitable use?

When we attempt to get a condensed statement of what the character of research actually is, we are confronted with serious difficulties. It is not humanly possible to give a clear and accurate account of our large and varied research program in terms of a few tags or labels. While the replies to my questionnaire were more generous and helpful than I had dared to hope, it is evident that different writers used different descriptive words or phrases. Some were inclined to lump a variety of related enterprises under a single general title, whereas others tended to subdivide and differentiate. Even so, the accompanying tabulation has a good deal of interest and some value in showing relative lines of emphasis and differing trends in research work. It shows the farm management, farm organization, and accounting group as largest at both the beginning and the end of the period, as well as being most stable in volume. Next comes marketing, which apparently enjoyed more expansion when funds were at the maximum but has now dropped back to practically the same relative emphasis that it had ten years ago. If we were to add price analysis studies to the marketing group, it would then show a still larger expansion at the peak and a better maintained emphasis today. It is obvious, however, that price analysis studies in many instances should be linked with the farm management and organization group rather than or as well as with marketing studies.

Next we come to two groups which had relatively minor emphasis ten years ago, that increased to four or five times their original prominence when funds were most abundant, and which have remained at practically that level in spite of reduced budgets. These are land economics and farm finance. The price and income group

other lines of work. Much credit was given to the Purnell funds as a means of sustaining work when state revenues were shrinking.

³ In view of the fact that the Bureau and the stations have to a substantial extent absorbed these reductions through salary cuts and economies in field work, there has been a much less than proportionate reduction in the working program.

of projects is somewhat similar, although it appeared to suffer a little more in the retrenchment program. In this group it is interesting to note the appearance and continuation of interest in standard of living studies, which do not appear in the tabulation for ten years ago. There is, however, reason to believe that these figures do not give an altogether correct impression. Certainly some work along these lines was being done at the earlier period and probably also it is receiving more relative attention today than this tabulation would suggest, being handled in conjunction with projects which are listed under some of the older headings. It is suggestive, however, that these titles have in recent years been differentiated and given a separate emphasis.

NUMBER OF INSTITUTIONS EMPHASIZING SPECIFIED LINES OF RESEARCH
AT THREE DIFFERENT PERIODS

	Ten Years Ago ^a	Year of Maximum Support	At Present
Farm Management and Accounting.....	19	19	15
Cost of Production.....	11	5	5
Regional or Type of Farming.....	3	7	8
Farm Organization.....	7	11	11
Farm Power and Equipment.....	1	2	1
Human Factor in Farm Management.....	—	—	1
Farm Management.....	41	54	41
Marketing.....	19	27	19
Cooperation.....	5	5	5
Marketing Costs.....	1	1	1
Area of Food Survey.....	—	1	—
Municipal Markets.....	—	—	1
Marketing.....	25	34	26
Mortgage Credit.....	—	1	2
Farm Finance.....	2	5	5
Taxation and Rural Government.....	1	14	12
Farm Finance.....	3	20	19
Land Utilization.....	—	8	8
Tenancy and Ownership.....	3	4	2
Part-Time Farming.....	—	1	2
Land Economics.....	1	4	1
Subsistence Farming.....	—	—	1
Land Prices.....	—	1	3
Land Classification and Appraisal.....	—	1	2
Land Economics.....	4	19	19
Price Analysis.....	3	10	9
Farm Price Index.....	—	1	—
Agricultural Income.....	—	2	1
Standards of Living and Rural Life Studies.....	—	2	2
Price and Income.....	3	15	12
Production Control.....	—	1	2
Agricultural Outlook.....	—	2	1
Readjustment of Agriculture.....	—	—	5
Population—Problem and Movements.....	—	1	1
State or Local Self-sufficiency.....	2	2	1
Reorganization of Farms.....	—	1	—
Readjustment and Control.....	2	7	10
Grand Total.....	78	139	127

^a Or initial year if begun subsequent to 1923.

Finally it would appear that fresh ground has been broken in territory which I have labelled "readjustment and control." The number of institutions reporting special interest in this field has increased even during the period of retrenchment. To this group it might be fair also to add the agricultural income and standard of living studies as being closely related to the general problem of the farmer's economic position and means of improving it. If that were done, we would show an increase from 2 institutions featuring adjustment and control studies ten years ago to 11 at the peak of support and 13 at present. Obviously, however, a great deal of work being done in all the other groups—farm management and organization, marketing, farm finance, land utilization, and price analysis—even though retaining its old title, has shifted its emphasis to this issue of agricultural readjustment, so that this constitutes the most pronounced new trend which has been making itself felt in agricultural economic research during the past decade.

Leaving now our attempt to get some quantitative measure of the relative force and trend of the research current, I shall attempt some qualitative discussion as to what appears to have been happening and why, and then venture a few suggestions as to what seem to me the most important lines of emphasis for the future. The tabulation which I have just presented applies only to experiment station work. The information supplied me from the Bureau of Agricultural Economics and the Farm Credit Administration, while not available in a form which could be included in that tabulation, will be covered in the qualitative discussion. Likewise I shall draw upon Black's discussion of the Scope and Method survey.

As to the content of research, it is evident that it has shown a great deal of change, particularly in recent years. Apparently there are three general reasons lying back of these shifts—(1) the efforts of those in administrative positions to plan a sound research program; (2) responses to popular interest or public demand for work in certain general fields; (3) specific demands from groups, some of which furnish funds directly or are supposed to be influential with reference to expenditures of public money.⁴ All of these determinants of the direction of our research program have their merits and likewise their possible shortcomings.

Looking first at the administrative influence, it seems to show two essentially opposite modes of approach. One has been to initi-

⁴ Notably the Farm Bureau, the Grange, cooperative associations, business interests, and unorganized farmers. Also the New England Research Council, the California Agricultural Council, State Marketing Directors, District Irrigation Boards, and the like. In some cases county agents and extension workers and officials have brought forward suggestions which have been influential in determining the direction of the research program.

ate certain general lines of work, seeking to get from this exploration a trustworthy guidance for further work of more detailed and special sorts. The other has been to start with smaller, more specific, and perhaps local problems, hoping to learn from these trial borings which fields will prove most fruitful. Where the more general approach has been in the nature of laying factual foundations and testing the applicability of existing methods, it has much to commend it. In certain cases, however, it seems that broad fundamental work, which has characterized the earlier years of certain research programs, has been abandoned in favor of more local and special studies on the ground that they were more practical and made a stronger appeal to those whose opinion was relied upon for the future support of the work. There can be no question that some of our programs have suffered by shifting too frequently from one problem to another, or from one methodology to another, thus losing the continuity of data of a comparable sort and giving results which were fragmentary and superficial.

I believe that there is sound wisdom in the policy of beginning a research program on broad general lines, touching the most important problems of farm management, marketing, finance, and land utilization, and of continuing these major lines subject only to the modification required by changing conditions or improving research techniques. Timeliness and practical usefulness come from working up important foundational materials, secured through such continuing and comparable studies, into answers applicable to new questions and local problems. If we have a permanent and substantial platform of well selected factual material covering the major aspects of the productive and distributive processes kept comparable and up to date, it will be possible to erect all sorts of valuable and much appreciated superstructures. The quickest as well as the soundest way to produce a bulletin on a current issue is to have available good time series of data on the principal fundamental questions of farm organization, management, prices, market movement, debt, income, and the like.

One station reports that its program has been changed because "past work was too specialized and thus of temporary usefulness," whereas another states that they have changed from more general studies to those which would be "useful in the present emergency." To this difference in viewpoint I can suggest no better answer than to quote from the statement made by Professor Jesness on his questionnaire. "Naturally as economic conditions change it becomes necessary to redirect some lines of work but we will do that primarily through shifting the emphasis in long-time projects

rather than through the discarding of established projects for entirely new lines of work. We believe this is the best way to build up a constructive and long-time research program because it enables us to build on past accomplishments. I think our research work always must be realistic and deal with changing conditions, but I cannot get enthused over the idea that changing conditions should create extreme changes in the type of work carried on. Attempts along this line almost unavoidably result in . . . flitting from one subject to another without adequate attention to any one of them."

What has already been said perhaps covers sufficiently the merits and defects of our second determinant of research trends, namely, "popular interest or public demand." In only one of my replies did it appear that this popular interest had resorted to direct pressure or political influence to kidnap research. If administrators have weakened their programs by attempting to tickle popular prejudice or passing interest, they have only themselves to blame. Much the same situation exists with reference to the third influence reported as determining the trend of research, namely, "specific demands from groups, some of which aid in financing." A research director is more to be pitied than blamed if his support funds are derived to any extent from such sources. Even where they are, however, the cases are few where he cannot, by sufficient courage and resourcefulness, win approval for the sort of studies which he believes to be sound and fruitful.

As to the reduction that research has actually experienced in response to these various influences, one man calls attention to the fact that ten years ago popular interest centered on researches concerning "fair price" whereas gradually they have moved away from this emphasis to what he considers the more fundamental issues of efficiency of farm organization and management. From an adjoining state comes the comment that "low purchasing power of farm products has tended to draw the interest from efficiency in production to justice in distribution." While these views appear at first glance to be absolutely antithetical, I am inclined to feel that they are not in fact so contradictory. My recollection is that the demand for cost-of-production studies as a means of arriving at "fair price" was animated by the thought that once this was figured out it could be secured through popular clamor or cooperative monopoly. On the other hand the present slogan of "justice in distribution" is, at least in some quarters, less a metaphysical concept than it is a demand that equality of reward be attained through a sounder adjustment of the whole process of economic

production. In such a program agricultural efficiency would have an increased rather than a diminished importance. Similarly I should be inclined to say that the shift from the old concept of fair price to one of efficiency in production represents an entirely sound research attitude if we conceive efficient production as being not merely a problem of the individual farm but of the whole type-of-farming area, fitted into a national scheme of agriculture properly adjusted to international needs and possibilities.

The second statement—as to “justice in distribution”—would be an equally acceptable formula for research today and tomorrow if this “justice” be thought of as economic stability brought about through efficient production organization throughout the whole agricultural industry. This view was evidently in the mind of Sanders of Oklahoma when he wrote, “We sorely need more research oriented along the lines of regional, state, and national problems. National research should emphasize international economic forces affecting agriculture.” Others have expressed somewhat the same idea by pointing to the necessity of studying the problems with which their farmers are confronted on an “industry” basis. I should endorse this view heartily, at the same time calling attention to what seems to me the sound division of labor between state research programs and the work of the Bureau of Agricultural Economics and other private and governmental agencies at home and abroad. It seems to me the peculiar function of state institutions to gain an understanding of the circumstances, potentialities, and limitations of the farmers who practice a particular type of agriculture within their bounds in order that these facts may be fitted securely into the larger analysis. The function of the Bureau of Agricultural Economics is to coordinate and synthesize these local segments into a national picture (with regional subdivisions having little regard for state lines) and to fit this national division into a yet larger international whole.

Pursuing further this idea of cooperative division of labor, it is not to be expected that either state or federal agencies will have a fully rounded view of the industry as its productive activities fit into distributive and manufacturing processes. It is thus to be hoped that the investigational work of commercial and trade agencies and non-agricultural research bureaus will be drawn into a comprehensive scheme of industry-wide research. The Bureau of Agricultural Economics should coordinate these commercial, industrial, and international parts of the program and relay the results back as promptly and as fully as possible to the agricultural experiment stations concerned, so that they may be made a part

of current thinking on the studies there under way with the initial producers of the commodity.

What we have been saying has related primarily to the relative importance of various subjects or fields of inquiry. Of no less importance are questions concerning the point of view, methods, objectives, and relative emphasis of the various projects, whether their titles be old or new. These aspects of the matter have been alluded to already, but more specific attention needs to be given to them. It is evident from replies that many workers feel that new wine can safely and with profit be put in some of the old bottles. One suggests that we need a more vital approach to management problems than older methods afforded. His proposed change would take the form of "projects to experiment with actual farms in determining improved systems and desirable adjustments because neither historical surveys nor paper set-ups give us what we want." If this development materializes, it will give us at least three centers of experience with the experimental method—one in the Far West, one in the South, and one in the Middle West general farming region. Perhaps there are others of which I am not informed. At all events, it would seem desirable that all who are interested in this method of research should pool whatever lessons they learn from these undertakings not only for mutual helpfulness but for the benefit of all the rest of us. Another writer says, "There should be more of a clinical approach—group analysis of regional and industry problems, also so far as possible interstate cooperation or conference on larger regional problems."

This is the note which is most prevalent in all parts of the field—types of farming, considered regionally as components of a national agricultural plan. Dr. Black suggests that there has been "a tendency for the states to wait for the publication of Dr. Elliott's map before venturing far in this field themselves." Its 504 type-of-farming areas, he says, will be the base on which the Agricultural Adjustment Administration will organize its planning program.

Undoubtedly this tremendous map project has given us a better factual approach and a more comprehensive view of the production economics underlying our national agriculture and conditioning its future. It is to be hoped that everyone who uses it will do so with the thrifty intention of making it supplement and coordinate previous farm organization and management studies rather than superseding them with new types of investigation so different as to prevent splicing new data on to that accumulated in the past. We need to remember that these lines of work, whatever their imperfections of method, have always been concerned with agricul-

tural readjustment and have always been in a very real sense economic planning for agriculture. Likewise, even under systems of benefit payment and production allotments, temporary or permanent, it seems probable that in the final analysis the scope and direction of the agricultural industry will be chiefly determined by the decisions of individual farmers. Hence I think it safe to proceed on the assumption that even present dramatic developments will prove to be in the nature of a congruous evolution in the conduct of agricultural enterprise rather than a drastic revolution.

Doubtless present developments bear a somewhat similar relationship and present a somewhat similar challenge to work in the field of marketing. All that we have really learned about marketing structures and processes, margins, demand schedules, and price behaviour should be of indispensable value to those working on distributive aspects of the "new deal." A recent survey by a special subcommittee of the Advisory Committee on Agriculture of the Social Science Research Council points to the need of more emphasis than heretofore upon the analysis of distributive margins, competition and trade practices, and the determination of standards. I would venture to suggest that probably one of the points at which our past research efforts will be found most deficient is where the new regulatory agencies come to grips with the problem of economically sound trade practices and appropriate marketing charges. Any attempt at helpful social control over prices must have not only information but wisdom on these points and must also have a very comprehensive and well considered system of technical standards.

While the latter is hardly a matter of economics as such, it has a most important ancillary relationship, and the Bureau of Agricultural Economics is to be most heartily commended on the work which they began long ago. From memoranda contributed from that Bureau, it appears that the work was brought to a partial standstill because of the lack of authority over various special interest groups. The Chief of the Bureau expresses a lively appreciation of the importance of this work to the carrying out of the program of distribution and price regulation espoused by the present Administration. He emphasizes particularly the "desirability of studying production practices which have a specific relation to the quality of production" and of consumer standards if quality and price are to be kept in a rational and constructive relationship to each other.

Cooperation, as a special phase of marketing, has never had a comprehensive and fundamental research program. The nature and

meaning of the cooperative form of organization and its application in agriculture have by no means been mastered, but I find no one mentioning this as a field which should be stressed in our future program. I feel strongly that it should be studied as part of the control theme of executive direction in the farming industry. In the past we relied upon individual enterprise. Then we made a beginning toward cooperative organization and direction. This approach was espoused by the last Administration as the road back to rural prosperity, and the Federal Farm Board was given a mandate to solve the problem according to the cooperative formula. The present Administration, with only a side glance at cooperation, puts its emphasis on direct governmental direction and, possibly, control. No more challenging task of research could be devised than that of studying the role of cooperative associations in their inter-related position between the individual on the one side and the government on the other.

As contrasted with the fields of farm management and marketing, whose future seems to me to present a considerable degree of continuity with their past, I invite your attention next to the field of farm finance. Here I wish to suggest that growth in the future should and probably will bulk disproportionately large as compared with the work done prior to the last five or six years, and for that matter even now. One of my state correspondents suggested that financial investigations had had considerable development in the last few years because of the breakdown of the banking system, but that interest in this field would probably be temporary. As contrasted with this view, I am disposed to suggest that what we have done in the past has hardly been more than nibbling at certain crumbs of the problem after they fell from the table of the banking institutions as we have known them. We have hardly yet squared away to investigate the problem of what financial service agriculture really needs, how fixed and working capital can most economically and effectively be supplied year in and year out over a long future. We need to take a fresh and penetrating look at the whole question of agriculture's position in the nation's financial structure.

This naturally raises the question of the Farm Credit Administration and its research activities in the future. It builds upon certain investigational work already initiated by the Federal Farm Loan Board and the Federal Farm Board. Consolidation of these several lines of activity into one great credit agency creates a demand for a large amount of service work, and for this they have established a Division of Economics and Statistics. "This Division assembles and analyzes operating statistics of all the various agen-

cies and analyzes the general economic situation and the operations of the Farm Credit Administration as a whole in order to provide central statistical control of operations and for the formulation of general credit policies." The Division will have its outposts in each of the twelve Farm Credit Administration districts. Furthermore the Cooperative Credit Division will carry on research in connection with cooperative organizations, although on a scale less general than that followed under the original program of the Federal Farm Board.

Both these agencies of necessity have their attention focused primarily upon the operative problems of the Farm Credit Administration, and in all probability will limit their activities to investigations of a service character. However perfect the service which they develop for these purposes and however valuable, indeed indispensable, it might be as the factual foundation for economic research in the field of farm credit, it is hardly to be expected that an operating agency of this sort would itself carry on these researches, nor is it logical for it to carry the financial burden of doing so. This division of the Farm Credit Administration therefore should be supplemented by a strong farm credit division in the Bureau of Agricultural Economics and it in turn decentralized and intensified by strong projects in this field in as many as possible of the agricultural experiment stations. It is encouraging to note that 13 of the state institutions in their replies designated this as a field of particular emphasis in the future.

Defining farm finance to include taxation, we would have a still stronger showing of interest in the states, bringing the total up to 23, or more than any other field indicated for future emphasis. The taxation aspect of the problem is one on which we need comprehensive and intensive studies. They should be so designed as to put us in possession of the basic facts as to the incidence of the various forms of taxation upon the farmer, set forth in terms of his capacity to pay. This must be studied in the perspective of two other pertinent factors, namely, (1) what the farmer receives in the way of specific services or general benefits as a return from or offset against the burden which he bears in the payment of taxes, and (2) his proportionate contribution to society in the way of adult man power. It is of course a truism that the country contributes more than its proportionate share to the labor force of the nation. I am wondering whether it also contributes more than its proportionate share to the care of the old after they have been discarded by industry at 45, 50, or whatever age. Much more significant probably is the question whether the country bears an

extra burden of caring for the industrial unemployed in periods of depression. At all events these questions need to be looked into and weighed against whatever our findings might prove to be as to the incidence of taxation.

This suggests another field which I find very little stressed, namely, agricultural income. We need a comprehensive and rigorously analytical study of the actual income position of the farmer. We have talked glibly about "equality for agriculture" and set up rule-of-thumb standards for measuring it, but we are woefully deficient in actual information as to the pecuniary return to farmers from top to bottom of the agricultural scale, of the standards of living which they desire to or could maintain under these schedules of income, of the facts and significance of income security, non-pecuniary elements in well-being, and the other factors which would make possible a complete and valid comparison of the relative position of the farming class (with its various subdivisions) as compared to others. The measures being proposed under "agricultural adjustment" and the "subsistence farming" movement presuppose a reasonably full and accurate knowledge concerning the present situation of farmers as to real income. This knowledge we do not have, and it is doubtful if the concepts and methods we have thus far developed are suitable for getting it. After poring over the reports submitted for the Scope and Method syllabus on this subject, Dr. Black concludes that "our existing equipment of data and procedures is as likely to lead public opinion astray as to guide it helpfully." I fully agree that this field needs more and better work.

Tying this subject of agricultural income back to the two other major fields—distribution and production—may I suggest that I believe the future orientation of research in the economics of agriculture will probably find in the word "population" more of a directing and organizing concept than it has had in the past. Our whole question of land utilization, distributive structures and practices, and farm finance must reckon with an altered outlook as to the rate of population growth and also the manner in which it is to be distributed. The present policy on immigration, the altered situation of the world with reference to the flow of commerce, the move toward decentralization of industry, the extensive introduction of motor transport, the wide extent and ever closer mesh of the highway net, and the necessity of some concentration of population if community services up to modern standards are to be rendered at reasonable cost—all these factors point to the need of intensive investigation of the problem of population distribu-

tion. It thus seems both noteworthy and regrettable that only one institution mentions population as a subject of emphasis at the present time. In fairness, however, we should add that some half dozen mentioned decentralization of industry, subsistence farming, retiring submarginal areas of land from use, or similar topics which have a more or less direct bearing on the question of distribution of population.

Finally I wish to discuss briefly a differentiation between types of research, which it seems to me is somewhat helpful in clarifying our thinking on this whole matter. This is the distinction between commercial research and social research. As I would define it, commercial research is that conducted on the problems and for the direct pecuniary benefit of a particular industry or economic group. The central objective is to enhance the income or improve the economic position of the particular individuals or group. It is the sort of research which a manufacturing or trading corporation, a bank, a railroad, or a trade association conducts because, by adding to their own efficiency, it is a paying proposition. It is a perfectly proper and even laudable effort so long as it keeps within the realm of fair competition, seeking gains through the enhancement of economic efficiency rather than the exploitation of others. At the same time, however, it should not be the whole story of economic research.

If the professional task of the economist is to discover the ways by which the wealth of nations may be increased, he must complement these studies of individual efficiency and group interest by the broadest sort of analysis of the manner in which the economic interest of particular individuals, communities, regions, or even the whole agricultural industry fits into the economic structure and ministers to the well-being of society as a whole. Supported as we are largely by public funds, there is inevitably a strong urge to "bring home the bacon" for those who are influential in maintaining appropriations. Over against this, however, two other considerations need to be kept constantly before us. In the first place, taxes are paid by all the people, and the advantage of farmers should be kept in proper perspective with that of other classes. Second, we must remember that in the long run agriculture will grow most soundly and will prosper most largely if the economic health of the whole body politic is brought to and maintained at the highest attainable point for all.

The present may seem a particularly inopportune time to stress the importance of restraint in promoting the special interest of agriculture when evidence is so abundant to the effect that it has

borne a disproportionately heavy burden of depression. As against this thought, however, I would suggest that a time at which national economic reconstruction is being undertaken with an emphasis upon fundamental equilibrium and careful adjustment in the interest of long-time stability is precisely the time to consider it. Agricultural economists have done an excellent job in developing over the past 10 to 25 years a research program of wide scope and generally good methodology. The materials gathered have been realistic and have enormous value for the inductive formulation of principles and elaboration of whatever economic planning we shall show ourselves capable of in the 10 or 25 years ahead. Our professional self-respect, however, demands that we shall not allow ourselves to drop into the position of economic attorneys for a particular group of clients but that, along with an excellent service in the field of commercial research, we make a scientific contribution to the social welfare of the world.

I am fully aware of the difficulties in securing approval for research work of this broader social sort. The pressure is strong for projects of an immediate "practical" character. As Mr. Olsen points out, "The demand for information of a short-time service character is so great that we have found it necessary to draft men engaged on sustained research to meet the emergency." Indeed, one of the replies which I received quite positively took the view that "we should take a holiday on world-saving schemes. Most of us are illiterate in economic and monetary theory. The farmers' welfare is a religion with us, not a science. I think we should work with our own state problems and stay on fundamental principles to solve local problems. We can help them that way. Let the academic economist save the world." To this I should like to reply that it has been the bane of the academic economist's attempt to formulate broad principles of world policy that he has been lacking in concrete knowledge of the factors which condition particular parts of our economic system. Agricultural research has been building up a rich repository of the essential knowledge related to one particular industry. It needs to continue this job systematically but undoubtedly needs some outside assistance. Its efforts need to be complemented by agencies sufficiently detached from the rural scene to have breadth of view at the same time that they are sufficiently impressed with the importance of sound technical knowledge so that they can appreciate and use intelligently the detailed information of the state experiment stations and the United States Bureau of Agricultural Economics.

It occurs to me that a quite extraordinary opportunity to round

out our scheme of agricultural research is presented by the establishment of the Agricultural Foundation under a bequest from the late Alexander Legge, supplemented by funds pledged by Mrs. Mary Harriman Rumsey and others. With an endowment which will probably run from 3 to 4 million dollars, and the statesmanship of a Frank O. Lowden at the head of its board of trustees, it should be able to exert an enormous influence both in supplementing and in coordinating the research work of existing agencies. On its board of trustees are men of affairs in the non-agricultural field as well as leaders of agricultural organizations, two of the best of our farm journalists, and three men who have been long and closely identified with our state agricultural institutions. If this board of trustees should decide to sponsor plans of research as fundamental as those of General Electric's research laboratories; if it succeeds in establishing receptive and stimulative relationships with existing agencies; if it is as courageous as its principal donor and its present chairman; if it keeps its funds from being frittered away in small grants to imitative and traditional projects; if it can draw upon the intimate knowledge of farming realities possessed by its farm organization leaders without taking on any color of farm organization politics—it should perform a unique and invaluable service in the future scheme of American agriculture.

DISCUSSION BY F. F. ELLIOTT

The subject matter of these two excellent papers is so closely related that I shall make no attempt to draw a sharp distinction between them in the discussion. I cannot hope to add much in the way of new ideas to either subject. There are certain phases of each, however, to which I wish to call your attention, even though it be only for reemphasis.

Specifically, it seems to me, there needs to be a re-examination and appraisal of agricultural research work from four points of view—(1) viewpoint and perspective, (2) content and coordination, (3) method and (4) personnel.

Viewpoint and Perspective in Research: There is a need, I believe, for a shift in emphasis both in viewpoint and perspective in our programs of agricultural research. While the various lines of research carried on may have the same broad general goal of an improved or more prosperous agriculture, the degree to which each contributes to that goal is quite different. No concerted attempt has been made, insofar as I am aware, to determine the relative importance of each part to the whole; nor has the goal itself been clearly defined. Many projects maintain a high place in the program, not because they necessarily contribute greatly to the larger goal but by virtue of priority in the field. They have the advantage of a good start and hold their position, as Director Cardon has pointed out, pretty much on the grounds of antiquity. So much money has gone into them that it now would be unwise, it is argued, to junk them and start over again. There are other projects which assume a sort of detached

importance but either are never finished or are published and remain detached contributing little or nothing to the problem.

Our research programs, it seems to me, should visualize the problem of agriculture more from the national and less from the individual and local points of view. This is not to say that the local point of view is unimportant or should be disregarded. It is rather a question of perspective—of fitting the facts and conditions of the local area into the larger regional, national or even international analysis.

The place and relative importance of each segment of the program should be more clearly recognized and defined. This will involve in many instances a shift in emphasis away from purely service types of research designed to meet current problems to the more basic types of research, yielding information necessary to the formulation of policy.

For much of our agricultural research in the past, the objective, apparently, has been to meet the problem of the farmer as an individual. This approach, likewise, has assumed complete freedom of action on the part of the individual, whereas, recently, as a result possibly of the development of a greater class consciousness on the part of the farmer group and his representatives, also to recent legislation, culminating in the passage of the agricultural adjustment act, the viewpoint may have shifted, temporarily at least, to the assumption of group action and social control. The objectives and content of a research program associated with the first assumption are different from the objectives associated with the latter.

The differences are most clear cut in the case of research in Agricultural Economics. It, however, also implies a shift in the viewpoint of research in the natural and biological sciences. It would involve shifting away from the tendency to emphasize the central position which each group has assumed his particular field or subject held with respect to the whole problem, carrying the idea of an unlimited production of each and every commodity to the concept of a stabilized total production, wherein the expansion in production of any particular commodity must come at the expense of the production of some other commodity.

If this latter viewpoint obtains it must inevitably result in the agricultural economist assuming a place of increasing importance in the research structure. This is in line with the suggestion made by Director Cardon, that research in agricultural economics is the tire which binds the wheel of all agricultural research together.

Content and Coordination of Research: The content of research will be conditioned in large part upon the viewpoint and perspective held with respect to it. A categorical answer to the question, therefore, is impossible. The answer will not be the same for a federal program as it is for a state program. Nor will the answer be the same for a particular state as for some other state. The point of view is different because the problems to be solved are different.

Although it is legitimate to recognize these distinctions, at the same time it is easy to overemphasize and magnify them. A little reflection will lead one to see that there are certain problems which are not restricted to any one region, state or locality and which are with us perpetually. Likewise there are other problems, following more or less a given pattern and subject to the same general principles differing only in application. It

is upon such problems that the primary objectives of a research program in agricultural economics should center and about which it is permissible to generalize.

The primary aim of such a program, therefore, it seems to me, should be (1) to meet the fundamental economic problems affecting the agriculture of an area, region or of the nation as a whole and (2) to yield information which will be basic to the formulation of policy thereto.

The problem, of course, is first to determine just what these fundamental problems are, and secondly to get agreement upon them among the responsible research agencies. Dr. Nourse has already indicated what he considers some of these fundamental problems to be in agricultural economics, and why he considers it desirable to shift the emphasis upon some of them in the future. Presumably a similar list of problems considered fundamental in the physical and biological sciences could be obtained. More difficulty, however, would be encountered in getting agreement upon them in either field. This, of course, should not forestall the attempt.

This lack of agreement on fundamentals, it seems to me to be a legitimate criticism of some of our past research programs or of certain programs as now conducted. It is impossible to say definitely, due to the uncertainties of political action, just what consequences would have resulted had certain research programs been adopted and developed in past years. But it may well be that some of the difficulties we are now encountering would be considerably less burdensome had there been available in the past more information upon which to base agricultural policy. I refer, particularly, to such problems as those of land utilization, farm credit, and the like.

It is now generally conceded, I believe, that our past policy with respect to the use of land was, in many respects, a mistaken one. Even today there is lacking much basic information necessary to the formulation of a national land policy. Who can say, for example, how much land we should have in cultivation; what our goal in production should be; or where that production had best take place? Likewise how definite can we be with respect to the size of production unit most economic or which is best adopted to a particular region or area, taking into consideration prevailing or prospective yields, practice, technique, etc.

Possibly some will say to expect that some of these questions will ever be answered satisfactorily is to hope for the impossible, nevertheless it seems reasonable to me that we should be able to obtain much more satisfactory answers to them than we now are in a position to give.

Similar "empty economic boxes" as Dr. Taussig calls them, on other phases of our agricultural problem remain to be filled. Dr. Nourse has pointed out what some of these are in Marketing, Farm Credit and Finance, Agricultural Income, etc.

Equally important is the problem of coordination. Greater coordination is desirable, it seems to me, in three directions. In the first place, there should be greater coordination as between national, state and local programs. There should be a cooperative division of labor between the federal and state, as well as of the private research agencies as Dr. Nourse points out, in a more definite parcelling out of subject matter and effort. Only in this way can serious duplication be avoided and a better perspective obtained as to the way in which the various segments fit into the whole.

In the second place, there is need for greater coordination of effort as between the different states. In many parts of the United States there are research problems common to a number of states. They pertain to a given type of farming which cuts across state boundary lines and are really regional in scope. The rational procedure would appear to be for the various states to enter into a cooperative arrangement, pool their resources and efforts to the end that one comprehensive study be made instead of each state attempting an isolated study of its own.

In addition to the two already mentioned, there is a third need to coordinate the various lines of research work in the whole field of agriculture, whether it be a federal, state or local program. This seems to me to be the central problem in the subject Director Cardon discussed.

Much duplicated effort could be avoided if there were a greater harmony of viewpoint and objective as between the research efforts of the natural and biological group on the one hand and the agricultural economist on the other. The agricultural economist being interested in the research results of each of these groups is vitally concerned with the way the projects are set up and with the form in which the results are finally yielded. Unfortunately, the input-output relationships of so much significance to the economist, now obtained from most experimental feeding, fertilizer and yield experiments as at present set up are but of limited use to him. This results because such experiments usually fail to show what outputs follow from successive equal inputs and, therefore, practically preclude the determination of the point of diminishing returns.

The experiments as now conducted undoubtedly have great significance for the purposes intended in comparing the relative values of different feeds, fertilizers, practices, etc., yet they would be of still greater value were they modified to yield at the same time this other information. While such a change would undoubtedly make this type of experimental work somewhat more expensive, particularly in feeding experiments, the enhanced value in the results, it seems to me, would more than justify the expense.

Just how to achieve this greater coordination of effort either in the research work in agricultural economics or in the entire field of agricultural research is the real practical problem. Until some sort of program is adopted which will bring about this coordination, we cannot expect to get a research program which will articulate the various lines of research, (federal state and local) into a unified whole.

I shall have time to mention but briefly the other two points, method and personnel.

Research Methods: If we are disposed to accept Karl Pearson's statement that "Science justifies itself in its methods quite apart from any serviceable knowledge it may convey," then method must be taken as representing a factor of considerable significance. As significant to the present discussion it seems to me desirable that more critical judgment should be used in selecting the method applicable to particular problems.

The method should be selected to fit the problem in hand rather than forcing, as is sometimes done, a standardized method upon the problem which is unapplicable. While refinement in method is usually desirable, it should be remembered that it alone will not make up for rough data. There seems to be too much of a tendency today to apply complicated

correlation methods to problems or to data which do not lend themselves to this use.

Likewise in the presentation of results it would seem desirable to differentiate more specifically than is now done between the actual results obtained and the method and procedure used in obtaining them.

Personnel in Research: This leads up to the personnel question—the final point I wish to discuss. Director Cardon has discussed the need for greater mobility in the research personnel. One means of accomplishing this is to promote specialization as to subject matter but not as to project. This recognizes that a research man's education is a continuing thing and his services should be used to broaden continually his viewpoint and perspective.

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BRANCH BANKING AND ITS BEARING UPON AGRICULTURAL CREDIT¹

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Wars, panics and depressions, whatever else their contribution, have played a rôle of no small importance in shaping the destiny of banking institutions. From the birth of the Bank of England during the continental campaigns of William of Orange to the genesis of the Federal Reserve System in the panic of 1907, almost every major political or economic upheaval has resulted in a recasting of the shape or a redirecting of the growth of banking institutions in affected countries. Likewise there are but few major changes in banking institutions or structure which cannot be traced more or less directly to major disturbances falling in one or more of the three categories listed above.

The present depression, insofar as the United States is concerned at least, promises to provide no exception to the generalization above. Banking throughout the country has proven extremely sensitive to the general prostration of economic life, and the extremely acute situation which developed in February and March of last year served to crystallize opinion at least to the point where there was more or less general agreement that something should be done. One of the most consistently discussed of possible changes has been the liberalization of restrictions on the establishment or acquisition of branches by banks.

It should be noted at the outset, however, that even the more sanguine proponents of branch banking must concede that it is a development which is capable of generating a powerful resistance. From a legislative standpoint, there is little doubt but that the granting of branch privileges to banks contravenes a principle which has been well entrenched for many decades. Moreover it is a principle that is well recognized. Much of the debate upon the Glass banking bill³ in the "lame duck" session of the 72nd Congress centered around the branch banking features and, even behind the verbose and seemingly irresponsible obstruction so apparent at the time, there was undoubtedly a strong reflection of the traditional dislike for any visible centralization or integration of control of the banking system. There has been some difference of opinion as

¹ Paper No. 41, The Giannini Foundation of Agricultural Economics.

² The writer wishes to record his appreciation of the counsel and assistance rendered by Dr. M. R. Benedict of the Giannini Foundation in the preparation of this paper.

³ The Banking Act of 1933 (Glass-Steagall Act, H. R. 5661) permitting (along with other and more important provisions) state-wide branch banking by national banks, where state laws make express provisions for this type of banking for banks operating under state charters signed by President Roosevelt June 16, 1933.

to the amount of branch banking heralded by the Glass bill, but it is certain that without a radical revision of state banking laws such change as might result would be scarcely perceptible over the nation as a whole for many years. On the other hand an entering wedge could be discerned by those so inclined. Resistance to branch banking of similar origin may logically be expected in the future even to the point of determining the spread of this institution.

The proponents of branch banking, however, face a road which has been travelled not unsuccessfully by other countries as well as by certain states within the Union. It might also be added that it is a road which does not vary in direction from that which has been travelled and trodden nearly smooth by industry to a greater extent in the United States than in any other country. In the longer time view of the matter, the fact that banking in the United States has been kept in a pseudo-decentralized form by legislative enactment, while other enterprise has been pyramiding combination upon combination, leads strongly to the view that branch banking, or some other form of consolidation of banking resources, will remain an important issue in the future even granting that industrial consolidation has apparently dictated increasing measures of social control with attendant problems.

However immediate the possibility of an extension of branch banking, it is a development of particular interest to the agricultural economist. If the country banker himself is excluded, undoubtedly the most deep-seated of the antipathy to branch banking is to be found in the agricultural community, or at least in the minds of those who essay to speak for it. An appraisal of the validity of the farmer's viewpoint, or in other words, an appraisal of the effects of branch banking upon the well-being of the farmer becomes of considerable moment to those concerned with the economic welfare of agriculture. It is possible that on a subject of such breadth, more problems are uncovered than explored in a paper of the present limits. Even this, however, is of some value in clarifying the issues which are involved.⁴

The Meaning of "Branch Banking"

There is little space or even need for dwelling at this time on details of structure and organization which characterize branch

⁴ A difficult problem in connection with current treatment of matters pertaining to agricultural credit is that of orienting existing methods and institutions with the unprecedented activity of federal agencies in the field. While the nature of the credit-granting institutions here considered makes this paper largely concerned with short-term agricultural credit, governmental and semi-governmental activity of some of unknown magnitude is promised even in this field. The relation between production credit activities of the Farm Credit Administration and the country banks—long the leading source of this of accommodation—is a matter which must be passed over if indeed it is capable of comprehensive treatment at the present time. This paper assumes a future sphere of activity for the country bank roughly similar to that which it has had in the past—this of course in that uneasy spirit which hovers for the time at least over all assumptions based on past economic organization.

banking or branch banks.⁵ It may be well, however, in a precautionary way, to point out one or two difficulties which frequently pervade popular and even technical treatments of the subject. At the same time some of the groundwork may be laid for later discussion.

The term *branch banking*, it may be noted first of all, subsumes a rather large variety of forms and degrees of branch organization. Branch banking in Canada,⁶ which represents virtually the apogee of centralization of resources and control, is scarcely the same thing as branch banking in California which, withal, has gone farther in the direction of a state-wide branch banking structure than any other state. Branch banking in California, in turn, does not bear a particularly close resemblance to the miscellany of forms which have grown up in states which restrict branches to the city where the home office is located. Nor is the resemblance especially close between the California system and those of states which permit state-wide branch banking but with rather different regulations pertaining to capitalization, capital increment for branches, and other factors dictating the size of the banks engaged in a branch business.⁷

There is particular need for stating rather precisely the regional scope of system in mind, when the term branch banking is used. Nation-wide branch banking is a different thing indeed from branch banking where any one bank extends its operations to only a few counties or even keeps within the borders of a state. It seems safe to say that a realistic consideration of the implications of branch banking in the United States can scarcely have concern with a type of structure which extends its operations over more than a state—or at most perhaps a federal reserve district. Aside from the tremendous resistance in the form of public opinion, and its reflection in legislative measures, which any development of greater regional scope would encounter, it must be remembered that, unless the government were to take the initiative, such a sweeping change would almost certainly require a considerable time even with present propensities for combination and consolidation. Those who have been looking fondly at Canadian or Scottish banking systems in recent years must consider that many of the

⁵ There are a number of fairly complete treatments of the various structural aspects of branch banking. See Southworth, S. D., *Branch Banking in the United States*, McGraw-Hill, N. Y. 1928; Cartinhour, G. T., *Branch Group and Chain Banking*, Macmillan, N. Y. 1930; and Ostrolenk, Bernard, *The Economics of Branch Banking*, Harper, N. Y. and London, 1930.

⁶ The most satisfactory recent treatment of Canadian banking will be found in the section devoted to this system in Willis' and Beckhart's *Foreign Banking Systems*, Henry Holt, N. Y., 1929, p. 29 to 109. The author has not had the opportunity to study a still more recent work by E. L. S. Patterson, *Canadian Banking*, Ryerson Press, Toronto, 350 p. [1932] (*The Queen's Business Studies*.)

⁷ Arizona, California, Delaware, Georgia, Maryland, North Carolina, Rhode Island, Virginia and Wyoming definitely permit state-wide branch banking. See Southworth, op. cit. p. 22.

difficulties which would be encountered in taking the United States system to Canada or Scotland, would also be encountered in bringing Canadian or Scottish systems to this country.⁸

Finally, it may not be out of place to reiterate the rather well established distinction between branch banking and the various forms of chain and group banking so-called.⁹ The branch bank is essentially one corporate entity and control over the branches is exerted by one directorate and its duly constituted administration. The resources of a branch are not distinct from the resources of the bank as a whole and all liabilities are likewise a common charge. Chain and group systems, while they exist in a considerable variety of forms, are typically series of separately incorporated units with control exercised through individual ownership or control of stock, holding company control, interlocking directorates, or in other ways. Theoretically, at least, no one unit is subject to the liabilities of other units. One unit or "link" in the chain might conceivably fail and leave the rest to go on as before.

It is likely that the extension of chain and group banking in past years has been given a considerable impetus by laws restraining branch banking. For this reason it is a development not entirely apart from the problem at hand. However, chain and group banking show sufficient real difference from branch banking that it is profitable to keep the two types of organization clearly separate in a discussion such as the present.

Credit Specification and Adequacy of Credit Supply

As a basis for briefly evaluating a type of commercial banking organization, as well as for a good many other purposes, it is frequently helpful to think of it as having but a single function—that of acting as intermediary between the holders of surplus funds and those who stand in need of credit. This viewpoint of course places to one side the expansion of credit accomplished by the banks on a given base but introduces no significant error into the appraisal. At the same time it facilitates the concentration of attention on certain issues of major importance. The function cited may be considered well performed when the banks meet the following specifications: (a) make a satisfactory distribution of credit between the various groups of borrowers; (b) provide banking facilities which combine convenience with reasonable cost to the

⁸ See Collins, Charles W., *Rural Banking Reform*, Macmillan, N. Y. 1931, p. 128 to 132. Referring to nation-wide branch banking, he says "It seems however almost useless to discuss such a contingency because it certainly has no immediate possibility of realization."

⁹ Cartinhour, op. cit. p. 58, distinguishes between chain and group banking by using the first term to denote instances of individual ownership and/or control of a series of banks, and the second to denote corporate ownership and/or control.

borrowing or lending groups who must ultimately pay for such facilities; (c) equate in a fair manner the interests of depositors and borrowers; and (d) accomplish the whole process with a maximum of efficiency and safety and a minimum of exploitation. The "interests" of the borrower, with which this paper is primarily concerned, particularly from the standpoint of agricultural credit, are closely related to all of the above specifications of a good banking system. It may reasonably be taken for granted that the farmer is chiefly interested in *adequacy* of credit supply combined with *economy* in the rate at which it is obtainable and *certainly* or constancy of such supply over a period of years. The nature and efficacy of the distribution of loanable funds to areas and types of enterprise under the banking system which obtains is a matter of first importance in its bearing upon the adequacy and economy of farm credit supply. The efficiency of the banking system has likewise an important bearing upon the economy of the credit supply and upon the closely related factor of adequacy. In fact all of the above specifications of a good banking system are closely related to the italicized requirements for a good credit situation from the farmers' standpoint. Let us turn to a comparison of branch and unit banking from the standpoint of these specifications as they, in turn, relate to the adequacy, economy, and certainty of agricultural credit.

The *adequacy* of loanable funds, from the viewpoint of total supply made available to the agricultural community at large under branch banking, is a question which strikes close to the heart of much of the controversy which has raged over this type of banking organization.¹⁰ In its broader aspects it has been called upon to support the case of both adherents to and opponents of any move to liberalize restrictions on branch banking.

The argument that branch banking tends to drain rural funds to the "money centers," although repeatedly raised, is not one which need detain us long here. Under credit conditions which we may be pleased to call "normal," there is evidence of sufficient mobility of loanable funds that centers with a considerable volume of demand and offering good yield and security will be sought out regardless of the type of banking organization. In other words, if New York or Chicago offers exceptional opportunities for employment of funds, present banking facilities are fully able to take advantage of such opportunities. The more fundamental weakness

¹⁰ Attention will be restricted throughout this and the next section to credit supply for shorter term or production requirements. While prediction of this kind is always dangerous, it seems scarcely possible that the present proscription by banks of loans on longer term mortgage security will soon be lifted unless indeed there is a speedy return of prosperity and with it another "high level" business and banking maxim.

of the argument, however, lies in the fact that the so-called money centers in ordinary times are not deficit, but are surplus areas from the standpoint of loanable funds. Worrying about the draining of country funds to Wall Street, save perhaps in periods of extreme speculation, is analogous to worrying lest the water run out of the well into the trough.

Undoubtedly much of the misconception involved here arises from observation of the policy of local banks of carrying deposits with city institutions, these tending to head up in balances with members of the New York Clearing House Association. This situation, of course, grows out of the excellence of the larger New York banks in past years as depositories for surplus or second line reserve funds. A more closely integrated banking system might conceivably find it possible to keep a considerably smaller volume of funds in New York at the relatively low rates of interest which ordinarily obtain there.¹¹

The converse of the above argument—that branch banking, by linking surplus and deficit areas more closely, may bring an easier flow of funds to points of demand thereby benefiting the more or less isolated user of credit such as the farmer—is worthy of more sympathetic consideration. While, as noted above, there is evidence of a considerable degree of mobility of funds under present organization, the fact that the farm credit demand is scattered and exists in relatively small units may justify the belief that the farmer cannot take full advantage of the national loan fund.

In a recent discussion in this Journal, Mr. Wall has taken the position that the supply of production credit for any given community is rather closely limited by the "loan fund" of that community.¹² This loan fund is conceived as an entity more or less apart from the supply of loanable funds in general.

While quantitative studies of the problem are not available, it would appear that Mr. Wall's view is one which, at best, can be accepted only with rather important qualifications. There are a number of avenues under existing conditions through which funds can filter into a community having demand for such. The extension of mortgage credit by outside agencies, for example, may reflect in an increased supply of loanable funds for shorter term purposes. Federal reserve credit may augment the local supply. Credit

¹¹ This situation has been changed in recent months. Payment of interest, as far as demand deposits in national banks are concerned, has been eliminated by the Banking Act of 1933. See footnote 2. This has resulted in a considerable transfer of funds to Federal Reserve Banks by country member banks (*Federal Reserve Bulletin*, July, 1933. 19. 7. p. 413) although it is probable that nonmember banks and even member banks will continue to carry sizeable deposits with city correspondents.

¹² *Agricultural Credit and the Economic Order*, by Norman J. Wall, *JOURNAL OF FARM ECONOMICS*, Vol. XIV, No. 1 (January, 1932). p. 138 to 146.

instruments of various sorts may serve to break down temporarily some of the barriers. Participation in the farm credit field by the Farm Credit Administration on anything like its present scale of operations must necessarily be a weighty factor in destroying the isolation of any community from supplies of loanable funds at large. All of these factors appear to considerably invalidate the conception of an isolated credit community.

It is probably true, however, that there are important resistances to the free flow of funds from community to community or area to area under the present banking organization, and if this be granted, it is easy to see how a banking structure encompassing several or many communities would facilitate the flow of funds from one to another. The practice of California branch banks substantiates this general view.¹³ Other things being equal, the supply of credit is increased in the sense that it is brought into a better adjustment with its most productive employments.

Turning from credit supply as such to adequacy of credit as it results from the loaning policy of the banks, we face another of the stock objections to branch banking. The branch bank is pictured as a remote and impersonal credit-granting machine, thoroughly cold-blooded in its policies, and utterly devoid of community interest or responsibility. Passing over the more extreme views, it is argued that, at best, it doles out credit with a too frugal hand.

The branch bank certainly tends to be a more impersonal type of credit institution than the local independent bank. Particularly when one of these institutions reaches the point of having from a score to a hundred or more branches it is necessary that rules and regulations, respecting the granting of credit by branches, be established and rather rigorously enforced. Certain "ideal" credit specifications, such as the clearing up of loans once a year or the filing of statements of business condition with the bank, may be translated to a greater or less degree into practice. In any case, the allegation that the branch bank and the branch bank manager do not become an integral part of the community, and tend to divorce the credit-granting function from personal relationships, has considerable truth in it.

No one can seriously argue the value of a certain amount of community interest and responsibility in banking as well as in other things; as a matter of fact, some of the most important manifestations of such community relationship are not wholly economic in

¹³ Southworth, *op. cit.* p. 105, in describing some of the advantages enjoyed by the California branch banks over the independent institutions, notes that "funds are shifted from the branch where the seasonal demand is light to that branch where the demand is temporarily heavy. In this manner only the absolute minimum of funds is kept idle in reserve."

character. Furthermore an intimate personal knowledge of members of the community stands as an asset of considerable importance to the independent banker. There are, however, less benign aspects of the matter. Adventuresome cooperation between local banks and local enterprise in past years has been too often applauded as a high type of community spirit. The extension of loans as a result of personal interest, where refusal would have benefited both borrower and lender, has likewise not been lacking. Particularly has it been difficult for the local banker to get a true perspective in making judgments in a universe of which he is so much a part.

The real problem appears to be one of striking a happy medium between too great a community association and a too abstract and mechanical type of institution. Whether unit or branch banking is best equipped to strike this medium is perhaps best left an open question. In Canada where the banks have grown very largely by establishing branches, rather than by acquiring unit banks, a more closely knit relationship between branch and community served would probably be advantageous. Certain of the banks in past years were inclined to move managers rather frequently and the complaint of the farmer that he was forced to deal with a comparative stranger who exercised czar-like powers over his credit was by no means unjustified.¹⁴ There has, however, been some evidence of a modification of this extremely impersonal policy in recent years. In California the large branch banks have extended their operations by acquisition of independent banks. In many cases the former president has been retained as manager or he has been made a vice-president of the parent institution. Likewise, the local directorate has often been retained in an advisory capacity for the branch and a policy of moderate branch autonomy put into effect.¹⁵ The setting for such extension of branch banking as may take place in the United States as a whole is that of California rather than of Canada inasmuch as a unit organization is already in the field. Should the trend be along the Californian rather than the Canadian pattern there would not appear to be any great danger of especially violent changes in the relation of the bank to the economic and social order of the community.

The possibility of an unreasonably stringent credit policy, as such, under branch banking lacks basis in either logic or experience. Banks make money by making loans, and loans will be made wherever there is a sufficient return commensurate with security and the cost of making the loans. It may be, however, that well established

¹⁴ See Willis and Beckhart, *op. cit.* p. 471 to 474.

¹⁵ See Southworth, *op. cit.* p. 102 to 103. This does not apply to city branches.

branch banking tends to place a different emphasis on security from that of the present system—the branch manager, for example, is likely to be judged more on the basis of the proportion of bad loans to good than upon even the earnings of the branch. On the other hand, such a policy in moderation is likely to be of long-run benefit to the borrowing group and of immeasurable benefit as a stabilizing influence generally.

The Economy of Credit Supply

Closely related to, if not a part of, the problem of adequacy of credit supply is that of cost or economy of supply. With such determinants of interest rate, more or less external to the banking system itself as the ratio in which the loan fund stands to the productivity of its employments or more simply, the ratio of the supply of funds to demand, we are not here concerned, although a possible effect of branch banking upon the rate of interest through more general mobilization of funds and increasing of effectiveness of supply has already been indicated. There remain, however, some rather more specific factors influencing the cost of bank credit which are of considerable importance in a consideration of branch banking.

First of these factors influencing the cost of credit is that of efficiency of the banking system—in essence, the amount of the subtraction made by the banks while acting as intermediary between depositor and borrower. The question is one which is of interest to depositor and borrower alike since, *other things being equal*, a more efficient banking system will mean a lower cost of loans or a higher rate on deposits or both.

The problem of relative efficiency of branch and unit organization is one which can scarcely be solved without rather careful quantitative studies and many practical difficulties lie in the path of such research. A consideration of some of the qualitative evidence in the case is at present the only approach to the problem.

On the assumption that the most important element in the cost of performing the banking service is the relation in which the “physical” plant of the bank together with staff and business connections stands to the volume of business to be done,¹⁶ it is doubtful if one can see any immediate economies in branch organization. In any area, for a considerable time at least, branch banks would

¹⁶ An excellent substantiation of the belief that volume of business is of dominant importance as a factor influencing the efficiency of banks, will be found in a study by Dr. Virgil P. Lee of the operations of some 150 Texas banks. Total expenses, excluding taxes and interest on deposits and borrowed money were 4.23 cents per dollar of earning assets for banks with deposits of less than \$400,000, 2.96 cents for banks with from \$400,000 to \$1,000,000 and 2.64 cents for banks with \$1,000,000 to \$4,000,000 in earning assets. Lee, Virgil P., *Economic efficiency of Texas country banks*. Texas Agr. Exp. Sta. Bul. 450. May, 1932. p. 3 and 27 to 30.

likely be in active competition with independent institutions. The same influences will be at work which have in the past caused unit banks to breed up to the profit minimum that results in a considerable excess of banking facilities.¹⁷ Even in Canada, where nine "typical" banks hold complete sway, tacit understandings between the banks as to rates on deposits and business practices generally, have not been apparent in the matter of establishing branches. Bad guesses as to the rate of future development of certain parts of the country may be assigned as a partial reason, but withal most observers have agreed that Canada under branch banking has been substantially "over-banked."¹⁸ There has been some movement toward a rationalization of banking facilities within very recent times but it is doubtful if there yet exists a markedly better adjustment of "bank" to business than obtained under unit organization in this country prior to the recent period of wholesale failure.

There are, however, some substantial economies which accrue to branch banking. The expense of maintaining correspondent relations is partially eliminated from the standpoint of the system as a whole; a more advantageous investment policy is made possible; the prestige of the bank's name substitutes for some of the building and other expenditure directed to this end; larger opportunities may make for as satisfactory a personnel at lower cost; and, finally, there is elimination of some duplication in advertising, credit investigation, and other details.

The question inevitably arises at this time as to whether such economies as might conceivably result from branch banking will accrue to the borrower or depositor or whether they will be carried off in higher profits or less savory forms of appropriation. There are innumerable aspects of the problem and it can perhaps only be solved to personal satisfaction by those who find paucity of information their greatest asset. Assuming a competitive situation, it would appear likely that a part at least of the savings would be used to attract depositors and borrowers and thus accrue to them. However, the assumption of competition in reasonably large-scale banking is a violent one and were it to obtain, we have seen that the more important economies of branch banking would be foregone. On the other hand, were this type of banking system to pass beyond the competitive stage, as it has in countries which best exemplify it, then it would be able to effect the more important of possible economies. A benign view of human nature is required

¹⁷ Prestige and certain subsidiary business perquisites of the local banker may have served to carry the extension of local bank facilities even beyond the hypothetical "profit-minimum."

¹⁸ See Johnson, Joseph French, *The Canadian Banking System*, Senate Document No. 583, 61st Congress. Government Printing Office, Washington, 1910. Also Willis and Beckhart, op. cit. p. 367 to 375.

however, for the conclusion that such economies would be effected for the benefit of depositor or borrower alone.¹⁹ Under the general assumption of free enterprise, the dilemma has not two, but many horns. Perhaps by the time such a situation need be faced we shall have a government sufficiently experienced in the regulation of business generally that the interests of depositor and borrower can be conserved without the penalties of either competition or association.²⁰

The Certainty of Credit Supply

There are two aspects of the problem of certainty or constancy of credit supply. The first of these relates to interruptions in credit supply as the result of short-time changes or fluctuations in the loaning policy of the individual bank. These may be considered as more or less apart from the second aspect—that of long-time or cyclical changes in the supply of credit which result from similar movements in business and credit conditions generally.

It is reasonable to believe that branch banking offers some advantages from the standpoint of freedom from short-time changes in local credit supply. Considering the case of a single branch, the manager is likely to formulate a set of loaning specifications applicable to the community served and proceed with the making of such loans as roughly conform to these more or less subjective specifications and refusing those that do not. The chief concern of any one branch is likely to be the security of loans together with having the largest volume of funds outstanding that is in harmony therewith. Under ordinary conditions the piling up of surplus funds or even the reverse condition is an important but secondary consideration for opposing trends of expansion and contraction of loans as between different branches or between different areas will tend to remove these considerations from the policy of any one unit in the system.

The president of the independent bank is not in the same position. Surplus funds cannot be shifted to another branch. If unused

¹⁹ Dr. Lee, op. cit. p. 3, in comparing large and small banks summarizes as follows: "The net earnings (before losses) for 62 banks with less than \$400,000 in earning assets averaged 9.08 per cent on the bank investment as compared with 11.26 per cent for 56 banks with \$400,000 to \$1,000,000 and 13.65 for 26 banks with \$1,000,000 to \$4,000,000 in earning assets." While it will be noticed that the ratio of increase in earnings with increase in size is not so great as the ratio of decrease in expenses (see footnote 16), it is quite apparent that the larger banks accept substantial reward for their more economical operation. On the other hand, the same study reveals a considerably higher interest rate on deposits for the larger banks.

²⁰ Observers of Canadian banking have almost universally noted a lower interest rate on loans in the western provinces than obtains under rather similar agricultural conditions in the neighboring states of the Great Plains area. This lower rate has commonly been ascribed, and with reason, to the nation-wide mobilization of funds and higher quality of loans under the Canadian system. It is possible, however, that in failing to note that Canadian banks have paid a far lower rate on deposits in recent years, that a reason for lower interest rates of considerable importance has been completely overlooked. The Canadian banks were paying 3 per cent on "time" deposits prior to May 1 of last year and at that time the rate was uniformly reduced to 2½ per cent. Checking privileges are allowed on savings accounts but "exchange" is charged on checks even between branches of the same bank. It is a reasonable assumption that this lower rate on deposits has been an active factor in making for a somewhat lower rate on loans.

they represent a real loss for interest on deposits continues. If such surplus funds are redeposited there is only a partial compensation for the interest paid on bankers' balances is rarely as high as that paid to original depositors (see footnote 11). The temptation to keep the largest possible amount on loan at such times is very great. In the reverse condition, somewhat more capable of being appreciated at the present time, the independent banker must again change his credit policy. Heavy withdrawals or extraordinary demand for credit when he is already fully extended may bring about restriction or even refusal of loans that would have been granted with alacrity under more favorable conditions. Even more distressed circumstances may necessitate the stopping of renewals of thoroughly satisfactory character and with considerable distress to the borrower. Under ordinary conditions, however, this tends to be of the nature of an extreme case.

The above-cited changes in credit policy on the part of an independent bank might conceivably be partially unassociated with the movement of business and credit conditions in general. Neither branch nor unit bank, however, stand immune from the broader influence of cyclical change. Affluent credit conditions in Canada as in the United States have brought easier loaning terms and even mild pressure to increase the volume of credit outstanding. Periods of depression, as at present, have brought contrite conservatism in the former as in the latter country.

The Canadian banks and likewise the larger California branch banks have, it is true, been able to keep afloat and go through the motions of ordinary banking business while smaller independent institutions have disappeared in legions. It may be that the difference between failure and some semblance of normal banking functions illustrates the difference in resistance to depressions, such as the present one, on the part of the two types of banking organization.

General Aspects of Branch Banking

To this point, in keeping with the major concern of the paper, attention has been centered upon a view of branch banking from the standpoint of the user of credit—in particular the farmer-borrower. For purposes of balanced discussion it is desirable that one or two further implications of this type of banking be at least indicated although they are of interest to the farmer only as a member of one of the many groups holding common interest in the banking system.

In viewing branch banking through the eyes of the depositor, a

close correspondence to the point of view of the borrower may be noted. Constancy or certainty of credit supply, a requirement of considerable importance from the standpoint of the borrower, may be translated into security of deposit funds when the bank is viewed through the eyes of the depositor. Both depositor and borrower are concerned that the banking structure be efficient and nonexploitive. Some mention of the matter of security has been made in discussion of certainty of credit supply. As the prime requisite of the depositor in a banking system, it seems possible that it is in this connection that branch banking receives its strongest recommendation. Various writers have compiled a mass of evidence, both analytical and empirical, in support of this conclusion and a great deal of it is sound. No banking structure, by virtue of organization or scale of operations, can transcend the need for competency and honesty in its operations. On the other hand, there are types of organization better able to survive than others, and banking that is on a large scale and embraces areas of diverse enterprise is indicated as one of them. For rural areas, independent or unit banking as we now see it is apparently incompatible with the size and diversity which makes for safety. There are at all times certain alternatives from which there is no escape.

Finally, some consideration should perhaps be given to what is implied in one of the most common as well as most sweeping indictments of branch banking. Reference is to the charge that branch banking contributes to the ascendancy of a "money trust" which may quite surpass the power of any form of government by virtue of the ultra-strategic position which it comes to occupy. This criticism is one which emanates, quite as much as any other, from the rural community.

In reference to branch banking in its more extreme form, the foregoing criticism cannot justifiably be dismissed as a popular "nightmare." Branch banking, by its very nature, tends toward a centralization of banking resources and control and in countries where it is well developed there have been certain convincing instances of governments adjusting their stride to the will of their bankers. In the abstract it may be rightly said that popular government is in a pitiable state if it must keep small or weak that which it fears it cannot control. It is unquestionably the function of the sovereign power to permit and adjust itself to desirable economic institutions, if it is assured that they are such, and to transcend them in authority.

The practical issue is one which is not wholly susceptible to idealistic treatment and, were branch banking to promise an un-

toward centralization of banking authority, we might be justified in looking at it somewhat askance on grounds of national policy. As noted earlier, however, there is little reason for immediately anticipating a development of branch banking on anything much greater than a state-wide basis. Further, a considerable degree of centralization has always been apparent in the real seats of financial power and such additional integration as might result from state-wide branch banking might not be of great relative importance. Most important of the offsets to an over-centralization of banking control, however, is the existing governmental precedent for supervision and even direction. There exists a keen feeling of public interest in the banking structure and it is one which may easily strengthen into an increasing degree of practical control as time goes on. Should branch banking develop in a moderate way one feels that there is little occasion for worry about increased "banker control" of economic life.

MARGINS IN MARKETING¹

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The margin or the spread in price between the producer and consumer deserves a great deal of careful study. The first and most obvious reason for this is the size of these margins and the tendency for them to increase over a period of years. Perhaps as good an estimate as has been made of the total cost of marketing goods of all kinds is that of Dr. Weld² that the total marketing bill of the United States for the year 1929 was 27 billion dollars. This estimate is made up as follows:

TABLE 1. THE 1929 MARKETING BILL OF THE UNITED STATES

Cost of operating retail stores.....	\$14,000,000,000
Cost of operating wholesale houses.....	6,000,000,000
Manufacturers' cost of selling.....	3,000,000,000
Freight transportation.....	4,000,000,000
Total.....	\$27,000,00,0000

According to this estimate almost one-third of the income of the United States in 1929 was used to pay for marketing goods. Moreover, this estimate is certainly conservative. Large quantities of goods are sold to the consumer without going through the regular wholesale and retail store system. The cost of marketing such goods is not included. Neither is the cost of transportation by motor truck. Also the estimate excludes charges for processing or manufacturing.

We are, however, concerned here particularly with the margins for agricultural products. I know of no complete estimate of the total value of agricultural products consumed in the United States as compared with the amount of income the farmer receives for these products. However, the table below gives a rough estimate for some of the most important groups of foods. The first column in the table shows the retail value of certain groups of foods consumed and produced in the United States as estimated by *The Business Week*³ minus the estimated retail value of imports. The second column is an estimate of the income received by the American farmer for that portion of his production which was used as human food in the United States. The third column shows the percentage of the consumers' dollar received by the producer.

¹ This paper was read at the Twenty-fourth Annual Meeting of the American Farm Economic Association, Philadelphia, December 28, 1933.

² L. D. H. Weld, "Our 27 billion dollar marketing bill," *Printers Ink Monthly*, March, 1932, pp. 22-23, 61-62. This article is quoted by Fred E. Clark "Readings in Marketing," 1933.

³ A series of articles published in *The Business Week* beginning April 27, 1932.

TABLE 2. RETAIL VALUE OF CERTAIN FOODS PRODUCED AND CONSUMED IN THE UNITED STATES AND INCOME RECEIVED BY UNITED STATES FARMERS FOR THE AMOUNTS USED IN THE DOMESTIC MARKET

Commodity	Retail value	Farm income	Per cent of retail value received by producer
	<i>Million dollars</i>	<i>Million dollars</i>	<i>Per cent</i>
Meat products.....	6,488	2,643	41
Milk products.....	4,821	2,394	50
Grain products.....	3,717	773	21
Vegetables.....	2,462	1,116	45
Fruits, cider, and vinegar..	1,533	640	42
Total.....	19,021	7,566	40

These five groups of food represent 78 per cent of the total value of foods consumed in 1929 (including imported foods) according to *The Business Week* estimate. The estimated consumer expenditures for these foods is \$19,021,000,000 of which the farmer received \$7,566,000,000 and the remaining \$11,455,000,000 went to pay the costs of transportation, processing, distribution and selling. The farmers received an average of 40 cents of each dollar spent by the consumer. This varied from 21 cents in the case of grain products to 50 cents in the case of milk products.

A similar estimate of the spread between producer and consumer prices of 14 foods⁴ by typical American families indicates that in 1929 the average retail value of a month's supply of these foods was \$26.11 and that the farm value of the equivalent amounts was \$12.40, leaving a margin of \$13.71 to pay the various kinds of dealers and processors between the farmer and the consumer. According to this estimate the producers of these 14 foods received 47.5 cents of each dollar spent by the city consumer.

The total spread between farm prices and retail prices of textiles is more difficult to determine because the retail price data available are not at all complete. However, the recent prices of certain textile goods compared with the farm price of the amounts of cotton in these goods will perhaps be of some interest. On November 21 the average price of work shirts in 26 cities was 90.4 cents. The farm value of the cotton in these shirts was 8.6 cents. The average retail value of sheets in these cities was 129.1 cents and the farm value of the cotton in the sheets was 18.4 cents. The average price of overalls was 153.4 cents and the cotton in the overalls was worth 19.9 cents at the farm. The average retail price of unbleached muslin was 12.9 cents a yard and at the farm the cotton in a yard of muslin was worth 3.1 cents. The cotton farmer received

⁴Commodities included are: beef, 12.4 lbs.; pork, 6.2 lbs.; lamb, .7 lbs.; hens, 1.9 lbs.; eggs, 5.1 doz.; milk (whole), 28.1 qts.; milk, evaporated, 6.4 lbs.; butter, 5.5 lbs.; cheese, 1.0 lbs.; rice, 2.9 lbs.; potatoes, 58.7 lbs.; flour, 22.0 lbs.; bread, 44.2 lbs.; macaroni, 1.9 lbs.

9.5 per cent of the city retail value of a work shirt and 24.0 per cent of the value of unbleached muslin.

The above figures on foods show in a general way the spread between the farm value and the retail value in 1929. The year 1929 was chosen not because the spread between producer prices and consumer prices was typical at that time but because it was the date of the latest census and of the first census of distribution, and for that reason we have more complete data on the amounts of commodities produced and sold and on the utilization of these commodities in various forms than in any other year. We are interested, however, not only in the situation in 1929 but especially in the changes in these margins over a period of years. Figure 1 shows the retail value of monthly purchases of 14 foods by typical American families from 1924 to date; the farm value of the equivalent amounts; and the margin between the farm and retail value, both in dollars and as a per cent of the retail value. I should like to remark here that there is a great deal of confusion in much of the popular discussion of margins and costs of marketing and particularly in the discussion of trends of such margins and costs due to the fact that some people commonly think in terms of absolute figures and others in terms of percentages. The chart indicates that the absolute margin, (that is the number of dollars which went to pay the dealers for transporting, processing, distributing and selling the amounts of these 14 foods used by typical families), was fairly stable from 1924 to 1929, dropped slightly in 1930 and fell from \$13.46 in 1930 to \$11.26 in 1932 and to an average of \$10.32 during the first three months of 1933. The percentage margin, (or the per cent of the consumers' dollar which went to pay the dealers), was also fairly stable from 1924 to 1929, rose slightly in 1930 and increased from an average of 55.6 per cent in 1930 to 67.1 per cent in 1932 and during the first three months of 1933 averaged 68.2 per cent. Since the first part of 1933 the absolute margin between the farm and retail values of these commodities rose from \$10.32 to \$11.36 on November 21. The percentage margin fell from 68.2 per cent to 63.6 per cent. Between March 15 and November 21, 1933 the retail value of these 14 foods increased 21 per cent, the farm values of the equivalent amounts increased 43 per cent and the dealers' margins increased 11 per cent.

The chart illustrates the fact which has often been observed that the costs of marketing are more stable than are the prices of most commodities and that for this reason the percentage variations in prices received by producers are commonly much greater than the percentage variations in retail prices. A small percentage drop

in retail prices often results in a serious percentage drop in prices to producers and a small percentage increase in retail prices often brings substantial price increases to producers.

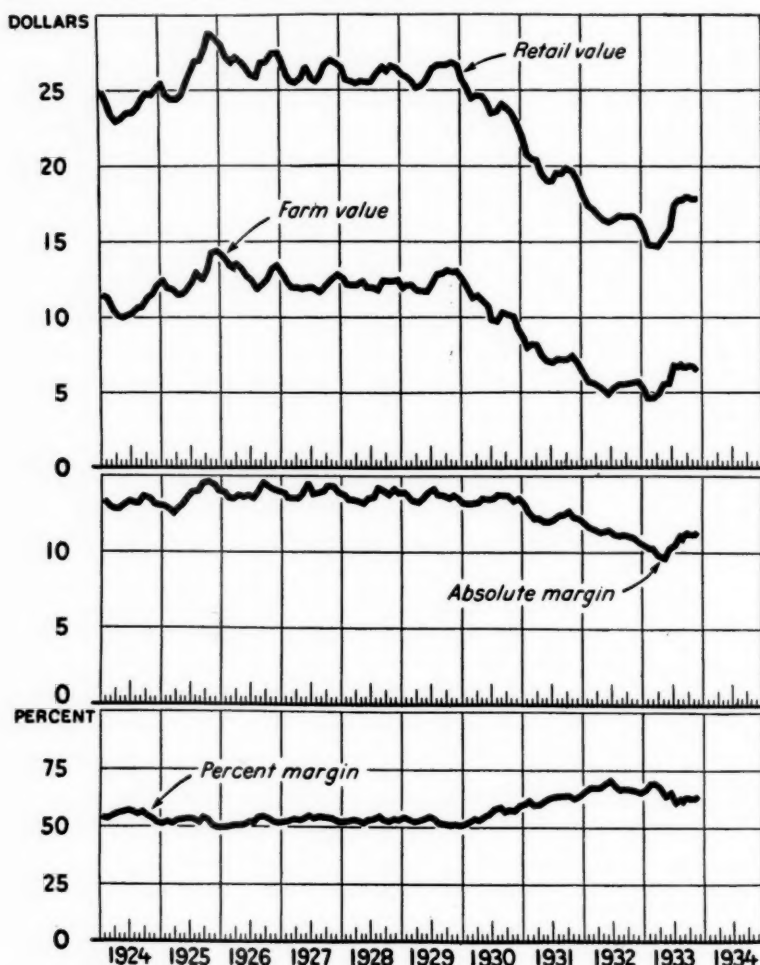


FIGURE 1.—Retail and Equivalent Farm Value of Monthly Purchases of 14 Foods by Typical American Family

The Interest of the Producer and of Society as a Whole in Price Margins

The facts about the spread in price between the producer and consumer and an understanding of these facts are important for about the same reason that an understanding of costs of production is important. The individual who can reduce his cost of production

through better farm organization or through any other method of bringing about greater efficiency can carry on his operations more profitably. An individual producer or dealer who can reduce costs of performing a necessary service of transportation, processing or marketing can likewise conduct his business more profitably. Moreover society as a whole always benefits in the long run from greater efficiency and lower costs of production and marketing. We have already shown that in many cases at least the various dealers and processors who handle agricultural commodities get more for their services than the farmers get for producing the raw material. This is not a new observation but is a fact which has been commonly recognized for many years. It indicates that studies of efficiency in marketing may in many cases be even more important than studies of efficiency in production.

An understanding of margins and the causes of variations in margins from time to time perhaps will in the future lead to a better understanding of economic theory in general. Professor Fisher and many other writers have shown that one important cause of economic depressions is that when the price level drops certain fixed costs such as interest on indebtedness and taxes become more and more burdensome. This is true not only of charges such as debt payments and taxes which are absolutely fixed but is also true of charges such as marketing costs which are not absolutely fixed but which tend to change less than the general price level and to lag behind changes in the price level. Since the total annual marketing cost is many times as great as the total annual payments for debts and taxes, it seems to me that the failure of marketing costs to respond quickly and fully to changes in price level may be a very important cause of depressions not only in agriculture but in industry as a whole. A problem such as this is not considered at all in the ordinary "static" theories of economics but may perhaps have a prominent place in an adequate "dynamic" explanation of economic phenomena.

In the present emergency an understanding of margins and marketing costs is particularly important since it has a decided bearing on the policies with relation to production control, marketing agreements or any other means of regulating production and marketing. During the past few months I have attempted to make an analysis of some of the theoretical problems involved in controlling production and I believe that if there were two groups of producers, one producing agricultural commodities and the other producing non-agricultural commodities and exchanging these goods by means of barter that neither group could benefit by re-

ducing its own production except under certain very improbable conditions. However, since we do not exchange agricultural goods for industrial goods directly by means of barter we must base our plans of production and marketing on analysis not of barter conditions but of actual conditions under which the producer exchanges his goods for money and these goods pass through several processes of transportation, manufacturing and marketing, all of which add to their money prices. Moreover, these charges are relatively fixed per unit regardless of the amounts exchanged and regardless of prices of the goods. It is because of these complicated conditions that agriculture may perhaps gain from a general curtailment of production. There are many theoretical questions here which need careful analysis.

The regulation of dealers and processors through codes and marketing agreements makes it necessary to have more complete and detailed facts about margins than we have ever had before and studies of these margins to determine proper policies of control. When a new code or agreement is written or when changes are made affecting the cost of operation of dealers or fixing charges of certain services, it is obviously necessary to have the best available facts to show the extent to which such regulations may lead to increased costs and how such increased costs may be divided among the dealers, producers and the general public. The incidence of processing taxes needs special attention both from the short time and the long time point of view and we need to know to what extent such taxes are passed on to consumer in the form of higher retail prices; to what extent they are passed back to the farmer in the form of lower farm prices; and to what extent they are absorbed in dealer's margins.

Data and Facts Needed

Any comprehensive program of research aimed at determining and explaining the spread in price between the producer and consumer will require the collection of many facts and a great deal of statistical data which have not been generally available. Such a program requires first of all an accurate determination of the total spread between the producer and consumer. Certain estimates of this kind have been made from time to time as indicated above but they are far from complete and may in many cases involve considerable error. There are many technical complications in the calculations of margins and price spreads. The meat dealers should not be condemned because the western farmer discovers that he pays a dollar for a serving of half a pound of sirloin steak in a hotel

in New York when he can sell his live steers for only perhaps 4 or 5 cents a pound. Such comparisons as this are commonly made but by themselves mean very little. The Division of Livestock, Meats and Wool of the Bureau of Agricultural Economics is doing some careful research to determine twice a month the average retail value of all the cuts of meat obtained from 100 pounds of steers, hogs and lambs. Work of this kind requires the collection of retail price data covering all meat cuts and surveys from time to time to determine the amounts of each cut obtained from a carcass. In addition it is necessary to know how the weight of the wholesale carcass compares with the weight of live animals. Only careful studies of this kind can determine the real spread between the price the live stock producers gets and the price the consumer pays for meat. There are many similar problems involved in the calculation of margins of most farm commodities. For example, milk is sold to the consumer in many forms such as fluid milk, cream, butter, cheese and ice cream. The spread between the price of milk and the price of various milk products is not at all uniform and to get anything like a complete picture it is necessary to have data on the utilization of milk in its various forms. An additional complication is encountered in figuring the margin on some things such as wheat products. Wheat is not only sold to the consumer in many forms but when the consumer buys bread he buys several commodities in addition to wheat products including milk, eggs, salt, yeast and some other commodities. Any accurate determination of the spread in price between farmer and consumer needs to take account of such factors as these. It is particularly necessary that we obtain adequate information on the utilization of products which are consumed in several different forms. The census of manufacturers and the census of distribution both throw some light on these questions but anyone who has studied dealers' margins realizes that the data now available are not complete enough for many purposes.

The price data are in general fairly adequate in the whole jobbing markets and in most cases give enough detail on grades and qualities so that fair comparisons can be made. The farm price data are averages of the various grades and qualities sold which make strict comparisons with market data difficult in some cases. The retail price data are in general the least complete although they are much better in case of foods than in case of any other group of commodities. Retail prices of clothing and textile goods are very limited and are collected only a few times a year and the retail prices of foods need in many cases to be more detailed and

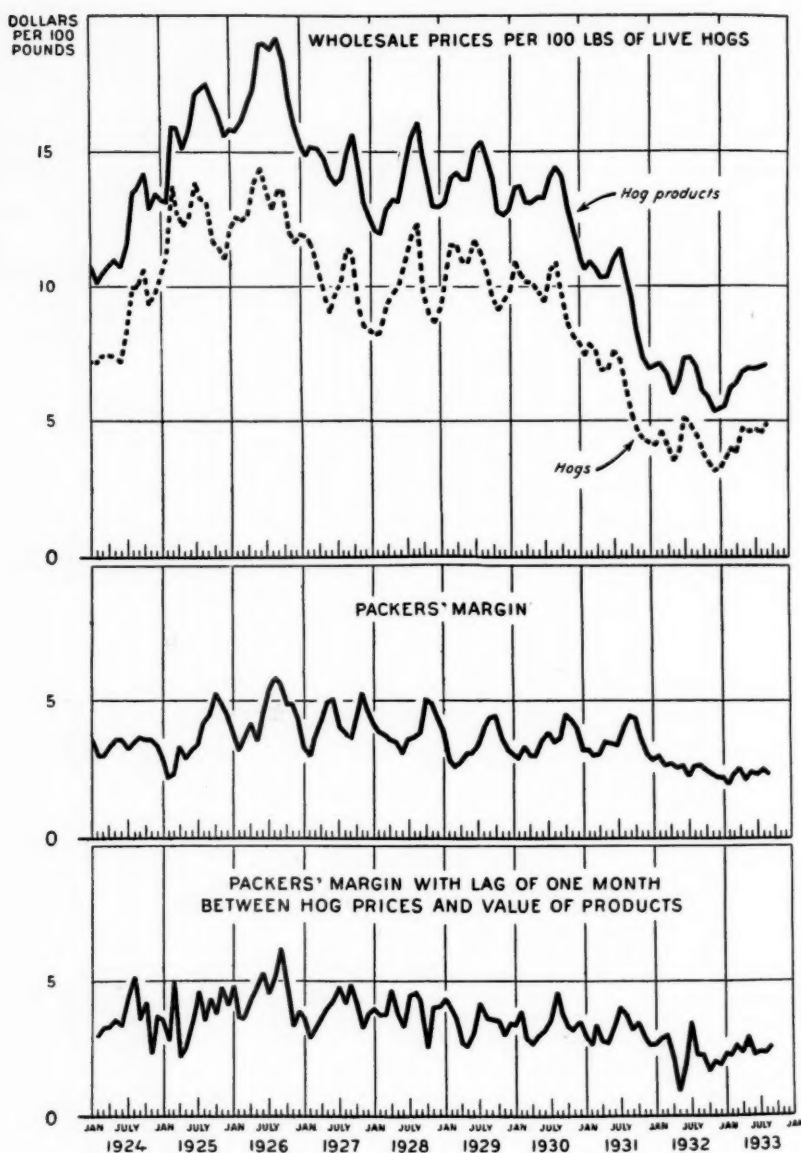


FIGURE 2.—Hogs and Hog Products: Wholesale Prices in Chicago and Packers' Margin

more specific as to quality for the purpose of making strict calculations of dealers' margins. The United States Bureau of Labor Statistics has recently made certain improvements in the schedule

used for obtaining retail prices which will make the data better adapted for this purpose, and further improvements in retail price collection in general may come during the next year.⁵

In addition to facts about the total spread in price between the producer and consumer it is necessary to break down these spreads in several different ways. For example, there are in most cases several different operations which are performed in getting food from the farmer to the consumer and it is necessary to divide the total producer-consumer margin into several parts corresponding with these operations. Therefore, in addition to knowing the total

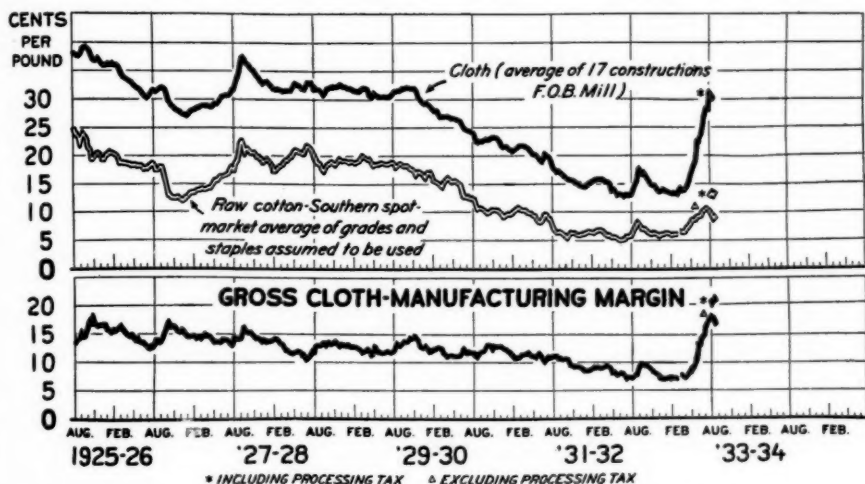


FIGURE 3.—Average Price of Raw Cotton Per Pound and of Gray Cloth per .85 Pounds and Margin Between These Prices, 1925-26 to Date

spread between the farm price of wheat and the city retail price of bread we should have facts about the proportion of this spread going to the miller, the baker and the retailer. There are many complicated problems involved in the calculation of these figures. Detailed studies of this kind can usually be best made when limited to single operations such as those illustrated in Figures 2 and 3. Figure 2 shows the margin in slaughtering and packing hogs, that is, the spread between the price the packer pays for live hogs and the price he gets for the equivalent amounts for the whole-sale cuts and by-products. Figure 3 shows the margin of cotton spinners or the difference in price between the cost of a pound of cotton and the average amount the cotton manufacturer received for the equivalent amounts of 17 constructions of cotton cloth.

⁵ Since this paper was prepared the Bureau of Labor Statistics has begun to publish retail prices of 76 food items. The old list included 42 items.

The margins also need to be broken down in several other ways, for example, by different methods of sale. We should have facts to show the spread between the farm and market prices of hogs when hogs are marketed directly and when they are marketed through the usual commission channels.

Some Suggestions Concerning Margin Studies

The plain raw data on margins such as those which have been presented in this paper are by themselves worthless. They become valuable only when they are used either as a basis for further study or when they indicate certain points or processes in the marketing system which need to be improved. The same might well be said of the raw data on production costs. Data on the average cost of producing a ton of pig iron or a bushel of Baldwin apples are in themselves of little or no value but a study of such costs may show practical ways of reorganizing the iron business or the business of apple growing to make them more profitable, or to provide the public with these things at lower prices, or both.

We have already mentioned very briefly certain technical difficulties in making accurate price comparisons for the purpose of measuring margins. Any comprehensive analysis of margins also involves technical difficulties, but probably the general methods to follow in such studies are similar to those used in the study of production organization and costs and in the study of prices. The aim should be to find the relation of margins to methods of transportation, volume of business, kinds of selling agencies used, type of packages, the level of prices, the amount of competition in the industry, and many other factors. We cannot be satisfied in such a study with abstract mathematical results in terms of correlation coefficients or averages but must be able to make recommendations indicating the way to perform a particular operation or the way to organize an industry on what we believe to be the most efficient basis.

Studies of this kind require that the student know something about the technical problems of transportation, processing and marketing. A very good dairy farm management expert may be poorly qualified to study the problems of milk distribution and marketing. In general the study of margins in marketing is more closely associated with industrial research than with the usual kinds of agricultural research. The man who is to arrive at practical improvements in marketing must know or learn a good deal about the problems of the commission merchant, the live poultry buyer, the meat packer, the baker, or the grocery store operator.

The experimental method has been used to a limited extent in

the study of margins and if done on a small scale has decidedly good possibilities. The final test of an idea is always whether or not it works. If a group of poultrymen think the present system of marketing eggs costs too much and a study of the situation shows that other ways of selling eggs might be more efficient, there is an excellent opportunity to try out these other ways. Such new developments as the egg auctions and the selling of fruits and vegetables directly to chain stores are experiments. They should be studied carefully to determine whether or not they are improvements over the former system; how they can be made more efficient; and to what extent the same methods can be successfully applied to other localities and to other commodities.

Many people, particularly those with little experience in marketing, feel that the whole system of marketing we now have is costly, inefficient, and full of parasitical middlemen who exact a tribute from the farmer and the consumer but who perform little or no service. Some of these people believe that we should scrap the whole system and build a new one. The objection to this is simply that we do not know how to build a new one. We may wish that the wheat farmer could get more than a cent for producing the wheat in an eight cent loaf of bread but there is no guarantee that he would get more if his cooperative association or if the government took over the grain exchanges, the flour mills, the bakeries, and the retail stores. Sound improvements must be made step by step and certainly no broad comprehensive reorganization of marketing should be attempted until the many detailed questions of organization have been carefully studied and until small scale experiments have been tried.

In the study of margins as in the study of production costs there is need for many investigations of and experiments with little details such as the relation of methods of packing to the amount of wastage and many similar questions.

The Regulation of Marketing

The study of margins is indispensable in the present emergency as a basis for sound regulation of marketing. It is often necessary to determine as well as possible what is a "fair" or "reasonable" price. The cost accounting method is slow and detailed and usually inconclusive. We can often get at least a partial answer by studying the trends of dealers' margins as compared with trends in the important cost elements such as wages. Particularly if we study past margins in comparison with past profits of dealers it is possible to find roughly what margins would have enabled dealers in a given

industry to break even during past months and years. If wages and other costs have increased it is possible to make a reasonably good estimate of the margin which would allow the industry to break even under the new conditions. Studies of margins of cotton mills and bakeries by the U. S. Bureau of Agricultural Economics have during the past few months been of considerable help in judging the reasonableness of the prices of cotton cloth and bread.

When marketing agreements or codes fix prices or fix dealers' charges the study of margins becomes particularly important. Average margins in an industry are not enough for this purpose. It is necessary to get a frequency distribution of the margins of many dealers and the policy should be to fix charges at such a point that all the dealers really needed in the business can make profits—but care must be taken that the margins are not set so high as to protect and keep in business the inefficient and unneeded dealer. Wherever the limitation of competition under the codes brings about more efficient marketing the savings should be reflected in lower prices to consumers, high prices to producers, or both.

In connection with regulation of marketing and the study of margins there is a special need for some research devoted to an understanding of the economic significance of price cutting and its place, if any, in our marketing system. We need to know more about the actual volume of "loss leaders" as compared with the volume sold at low prices due as a result of efficiency in buying and selling. Moreover there is a need for studies to determine the amount of shift in trade from one outlet to another because of specials and leaders and the influence of price differentials on the total volume of consumption and on the prices received by growers.

The "New Deal" has made many changes in the marketing of agricultural commodities. Many of these changes will influence prices to growers, prices to consumers and the margins of dealers. Studies of margins are therefore particularly necessary now. By themselves they may be worth little but they can be of great value in directing further research in marketing, in understanding the effect of new regulations and in the promotion of efficiency.

The general price level will probably rise during 1934. Ordinarily we could expect a rise in farm prices more than in proportion to the rise in the general price level. Probably we can expect this in 1934 but we must realize that this expectation is based on the assumption that dealers' margins will not rise enough to offset the advance in retail prices. Some increase in dealers' margins is justified, desirable, and even necessary in many cases if wages are to be main-

tained at reasonable levels. Nevertheless, increases in dealers margins should come gradually and should be limited in such a way that producers of food and raw materials get a real benefit in the recovery. Every effort must be made to bring about greater efficiency in the marketing system in order that dealers can make a fair living without increasing margins. In many cases it should be possible during the next few years to bring about greater efficiency and to enable dealers to make profits from lower margins than those charged at present.

DISCUSSION BY LELAND SPENCER

CORNELL UNIVERSITY

Dr. Waugh has called attention to the fact that costs of marketing are more stable than the prices of most commodities. This is a very significant fact and explains the widespread interest in margins, costs of distribution and middlemen's profits at the present time. It means that in a period of deflation dealers' margins absorb an increasing share of the consumer's dollar while the proportion received by farmers and other producers of raw materials is correspondingly reduced. Even though the margins are reduced in amount, they appear to become more burdensome.

The popular explanation of the failure of dealers' margins to diminish as prices fall is that middlemen are taking advantage of the weak bargaining position of producers and consumers. Of course, this can happen only in cases where competition among processors or marketers is very much restricted. It is true that competition is less extensive among middlemen than among farmers, but there are other reasons for the comparative steadiness of dealers' margins. Marketing costs consist more largely of current cash expenditures than do production costs. Marketing enterprises are more promptly taken over by creditors when income fails to cover costs. Urban labor is more resistant to wage reductions or delays in paying wages. In the city all living expenses represent cash outlays. Some important elements of cash marketing costs, such as freight rates, are fixed directly or indirectly by government and respond very belatedly, if at all, to changes in prices. Finally the volume of goods moving through the channels of distribution is more readily controlled than the production on farms.

In most marketing operations the volume of business done is the most important factor affecting unit costs. Limitation of volume by dealers in the attempt to maintain their margins tends to raise unit costs and to set up further resistance to the narrowing of spreads as prices fall.

Far too little information is available concerning changes in composition of the dealers' margin during periods of inflation and deflation. Such data as we have seem to indicate that at the beginning of a price decline, there is a tendency for margins to widen and for profits to increase. Later with declining sales volume and falling resale prices, margins are reduced more rapidly than costs and profits are substantially reduced or eliminated.

Unquestionably the prime purpose of research on margins and costs is to find ways of improving the system of marketing, ways of increasing the

efficiency of marketing agencies. Another purpose, as Dr. Waugh has indicated, is to provide information for the guidance of public officials charged with responsibility for regulating production and marketing. The usefulness of cost data resulting from research in this field, to business executives and trade associations as a basis for price policies may easily be underestimated. Tremendous losses as well as needless controversies may be traced to policies pursued in ignorance of and in conflict with economic facts which could easily be demonstrated by disinterested research on costs.

An illustration of this point is found in the attempt by retail milk dealers to prevent cash and carry stores from selling milk at a lower price than is charged by dealers for home delivery. In some cities at least, the facts as to comparative costs of distribution by the two methods justify a differential of about one cent a quart. Recognition of these facts would have saved large sums which have been lost in wasteful price wars. Under the competitive system business policies are largely determined by current forces and opportunities as interpreted by executives. Nevertheless a greater knowledge of comparative costs would enable these executives to evaluate more accurately these competitive forces and follow those most likely to prevail.

Still another purpose of research on the subject of margins and costs is to supply farmers and consumers with facts which will enable them to aid in bringing about the reforms that are shown to be required for greater efficiency or better service on the part of marketing agencies.

A great deal more might be said as to sources of data and methods of margin and cost analysis. In addition to the price data mentioned by Dr. Waugh, there is great need for cost data which are available only in the accounting records of marketing agencies. The ability to suggest and to demonstrate ways of increasing efficiency in marketing is most likely to come about through the study and analysis of such data. As a tool, cost accounting is perhaps as important to the investigator of margins, as the microscope is to the bacteriologist or the botanist. Research in this particular field is beset with three main difficulties, namely: the tendency of executives to regard their records as highly confidential and their consequent hesitancy to make them available to research workers; the lack of uniformity in records kept by the various concerns whose operations are to be compared, or combined in averages; and the common deficiencies of the accounting records particularly in respect to quantities of products, labor, supplies, and the like. Such information is particularly important in times of rapidly changing prices.

There can be no disagreement with the suggestion that the costs be segregated by operations. That is the logical first step in the analysis of costs. The total cost of each operation may well be broken down into several classifications such as direct labor, supplies and services purchased, property expense, and the like. It is only when the relative importance of the several classifications and items of cost have been determined that changes in wages or other factors can be properly evaluated.

The suggestion that attention be given to the relationship of various factors such as business methods, volume, and method of sale, to margins and costs might well be emphasized. Sometimes this can best be done by comparing costs in a number of operating units, such as milk plants or

feed stores. Even though the facts developed in such research go little further than to confirm conclusions resulting from superficial observations, they may be very helpful in stimulating needed reforms in marketing practices.

Most agricultural businesses have to do with more than one commodity or utilize a single commodity in different forms, as in the case of milk plants. Usually some of the costs can be charged wholly to certain of the products, while others apply to two or more products. The allocation of joint costs is admittedly difficult and never entirely accurate. Nevertheless there are cases where the calculation of individual product costs and profits serves a useful purpose. Nearly always the results must be interpreted by more or less economic analysis, for the reason that such analysis is not conveniently comprehended in the accounting procedures.

The fact that our discussion is listed under the heading of "Marketing Research" conveniently excuses us from any detailed comment on Dr. Waugh's statement that "the policy should be to fix charges at such a point that all dealers really needed in the business can make profits—but care must be taken that the margins are not set so high as to protect and keep in business the inefficient and un-needed dealer." Probably most of us would agree with this general statement but would find the greatest difficulty in agreeing on definitions of its terms.

However that may be, we can agree that a frequency distribution of margins (and costs) of many dealers is desirable. Further study along these lines may disclose some interesting and significant tendencies. Data now available relating to the margins and costs of milk dealers indicate that the larger buyers pay higher prices for the milk sold in fluid form, obtain higher prices particularly in the wholesale trade, pay higher wage rates and have lower unit costs except for special functions such as sanitary control and advertising, to which they give more attention than the dealers of the smaller class.

CONSUMER GRADES AND STANDARDS¹

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The broad purposes of grades are to facilitate economic processes, first, by providing information leading to the more proper formation of prices and, second, by assisting in the handling of commodities to lower their costs of distribution. When applied to consumer's goods grades possess a special significance in that they may be made to render aid in that most complex problem of proper expenditure. The specifications in the rating of the commodity may serve in themselves to acquaint consumers with characteristics which expert opinion deems essential. Moreover, the grades tend to protect consumers from certain obvious abuses arising from the profit making motive of the economic order. For example, there is a tendency for business men in a competitive society to secure protection for their sales by building around their product thru brands or other distinguishing devices semi-monopolistic situations. Grades break down these protective devices by expanding similarity of essential characteristics to a broader group.

In recent years significant advances have been accomplished in the recognition of the importance of consumer grades and standards. Public attention has been drawn increasingly to the problem thru the activities of individuals such as Stuart Chase and Miss Coles, independent organizations such as the American Home Economics Association and Consumers' Research, and a constantly enlarged group of government bureaus. The legal position has been improved also. The Pure Food and Drug Act which has prohibited the sale of adulterated and injurious foods for over 25 years, has been amended recently to grant designation of permissive compliance with U. S. grades in certain canned foods. Moreover the law stands a very good chance of being extended in scope and materially strengthened in the coming Congress. The Bureau of Agricultural Economics has done a prodigious amount of work and promulgated a considerable number of grades for agricultural products. The Bureau of Standards and the Federal Trade Commission also have done important work in reaching agreements with regard to standardization and labeling of manufactured products.

The impetus for the grades and standards adopted thus far have been initiated largely by producers. The occasional adoption of

¹ This paper was read at the Twenty-fourth Annual Meeting of the American Farm Economic Association. Philadelphia, December 28th, 1933.

consumer grades and standards hardly have been a credit to the industry in a large majority of cases. Where such grades have been accepted by the industry it has been usually because qualities were indistinguishable by consumers and misrepresentation so rampant that consumers were utterly bewildered and hesitated to purchase with a consequent great decline in sales and individual profits. When the producers' pocketbook has been struck there is a great cry for grades and standards, for example meat inspection, evaporated milk and radios. But where the market is not demoralized there is strong opposition to the adoption of consumer grades. Here those with a reputation for consistently superior products may secure enhanced prices because of that reputation, and those with shoddy products may secure higher prices than they could with labeling. It is unlikely that many products will find their markets sufficiently demoralized by bad trade practices to accept readily mandatory grades. This has forced us to make grades largely permissive in character. We have had sufficient experience with these permissive grades to demonstrate that in the majority of cases opposition of important trade groups will preclude their widespread adoption. With permissive grades the only hope is to educate consumers to purchase products so labeled, but with the inertia of consumers and determined resistance of a considerable part of the trade practical results are remote.

Given time we will advance undoubtedly to a more tenable position for our consumers in this respect. The significant thing, however, is that the present moment is unique in the remarkable opportunities it affords for strengthening the consumers' position. These opportunities lie in the public acceptance of change and in the codes and marketing agreements sought by many industries. The participation of the government as a party in these agreements, charges it with the duty of a broad social viewpoint, which includes among other things insistence of protection of consumers from the exploitation which is widespread under our competitive system. This opportunity is passing rapidly and it is pathetic that we are failing in the use of it. The Consumers' Council in the Agricultural Adjustment Administration recognizes this need of consumer protection and is insisting on the inclusion of any generally accepted grades in the marketing agreements. The N.R.A. codes are practically devoid of any recognition of this problem, and there seems to be no inclination to force grades and standards into these codes. Specifications certainly are available at the present time of generally agreed importance to permit material improvement thru mandatory adoption.

The theoretical advantages of consumer grades are easily and amply demonstrated. It is only when we turn the practical problem of how these grades are to be determined that we encounter serious difficulties.² One theoretical advantage is that specification of characteristics important to consumers must facilitate intelligent purchase. Here we should note that there are several gradations or degrees possible. The grades may specify simply the characteristics which are *now* judged important with respect to products by consumers themselves as reflected for example in the price they are willing to pay. The grades may specify, however, characteristics which consumers *would* judge important and for which they would be willing to pay if they were able to distinguish them or were provided with the opportunity. These characteristics may be unassociated with present easily observable external characteristics known to consumers, or may be observable but due to other associated undesirable characteristics from which they have not been separated the consumer may be unable to register a preference. Finally the grades may specify characteristics which are judged important by expert opinion. They may designate qualities which *should* be important to consumers. Grades in this sense contain an element of propaganda in the direction of consumption in desirable channels, the full force of which we do not know, as yet. Consumers may feel the higher grades more valuable, particularly in the cases where the specifications are not readily distinguishable and in those cases they will probably react with a willingness to pay somewhat higher prices, thus widening the spread between the better and lower qualities. This is a form of the time honored device now used by business men to differentiate their product and sell to consumers at a higher price because the consumer is made to think the product superior and it may be turned to the advantage of consumers by designation by disinterested agencies. The second advantage of consumer grades is that the designation of these qualities may assist early subdivision of the product into groups possessing these characteristics. Early subdivision will facilitate economical handling of the product and will tend to reflect back to producers characteristics desired by consumers. This should lead to higher prices for these types of products possessing these characteristics and a subsequent larger production wherever these qualities are subject to control. This, in turn, should result in greater consumer satisfaction and enhanced incomes to the more effective producers.

² See Research in Marketing Farm Products, Social Science Research Council Bulletin No. 7, p. 143

Maintaining our classification of what the consumer does, would do and should do in mind, the preliminary steps in the investigation are fairly clear. There is first the question of what the consumers uses the product for, next the question of what the characteristics are which are essential for these purposes, and finally what observable features are associated with these characteristics. This is the problem of specification. It lies largely in the field of the technician and until the technician can provide us with these important specifications the rest of the job cannot be done satisfactorily. But grades in order to be significant must bear some relationship to price, and here is where important services may be rendered by the economist. Specifications must be so combined in grades as to result in important price differences among these grades, otherwise the grading becomes nonsignificant from an economic viewpoint.

One method by which research in this field may be carried on is to examine the situation in some stage of the market prior to sale to consumers. In the central market grades are somewhat simpler to establish since here the proposition is entirely one of classification of products into groups that will yield a different price in subsequent sale. The procedure is available for products sold without processing to consumers. A large number of agricultural products fall into this group, but manufactured products subject to quality control are largely precluded. A very material advantage of the selection of this position in the movement of products is that here the transfer of products does not involve the problem of special services and semi-monopolistic positions of retail stores. The assumption is involved, undoubtedly with considerable validity, that the central market dealer preferences are a reflection of the preferences of their customers. We need to recognize, however, that retail dealers may exercise considerable pressure upon consumer choices thru operations of their own.

Several techniques may be followed profitably in studies of this type. We may question the market operatives on the use of products and the desired qualities. These people are likely to be experts in judging the commodity in question and are able to provide knowledge from their own experience. Or better still, we may relate the physical characteristics of particular lots with their selling prices and by statistical methods arrive at a quantitative statement of the importance of certain factors. In such a study however we must remember that the price paid for a particular characteristic varies a good deal with the quantity available. For example, the premiums on protein in wheat differ materially in years when the

average run of wheats is high in protein and years when the average run is low. Similar differences occur in cases of products where no further processing is involved.

This may be as far as it is worth while for a state experiment station to go. An individual station hardly can be expected to establish grades widely used, and consumer grades to possess any considerable desirability must have a wide use. Such investigations, however, may have great usefulness to the producers of the particular state in indicating desirable market qualities, and when checked against actual grades may disclose important deficiencies. This is certainly one of the important researches to be undertaken in the establishment of grades and standards, and the more we may have of it the better.

The usefulness of these devices in establishing consumer grades and standards is much less clear. They serve fairly well to establish, subject to qualifications because of dealers practices what consumers *do*, but do not answer the further question of what consumers *would* do if granted the opportunity, or *should* do by other criteria. Consumers may now be unable to register in price offers certain qualities desired, and in consequence, market grades may be different than they otherwise would be. The marked success of merchandising in the case of agricultural products where made convenient to consumers and where consumers are convinced of a uniform high quality is an excellent example.

The other principal approach which is open to us is to examine the problem beginning with the consumers. This will be more difficult, we will be less sure of our results, but these results may be more valuable. There must first be established the uses to which the consumer puts the product, either by questioning or by observation. Next the important qualities and gradations of of qualities bearing upon these uses must be established and measured. These are difficult procedures often requiring long laboratory research, but a large number of specifications are already well established if we could find a means of forcing them into use. Then we must establish whether these specifications are significant to the consumer in terms of price. To do this we probably will examine the market situations, using the techniques mentioned earlier, to see whether the qualities are significant as judged by the prices paid by consumers. This examination may disclose that our specifications are not now price significant. We must then determine whether the failure to be price significant is due to inability of consumers under present marketing methods to differentiate these qualities, or consumer ignorance of their importance, or simply indifference of con-

sumers. A nice judgement is then involved as to whether specification will make the qualities price significant. It is a valuable thing to indicate to consumers specifications of essential qualities even though these do not become reflected in price, but this is more or less of a social problem since it involves the should aspects of the problem. Economics demands that we proceed somewhat differently and endeavor to indicate groups that are significantly price different both from demand and supply aspects.

The specifications which are price significant now need to be divided into sections of various ranges. It is here that the supply situation must be carefully examined. If the quality were price significant to consumers and could be supplied at no cost, then only the quality specified in the highest grade would be supplied and other grades would be meaningless. If the characteristic were not price significant to the consumer and involved cost, then it would not be supplied at all, or only the lowest quality would be supplied. Between these two extremes the majority of all practical problems will lie, and in consequence, the examination of the supply situation is imperative even in the establishment of consumer grades.

This matching of the range of consumer price significance against the range of supply prices for those qualities to give important price classifications, and to provide a series of grades with significant differences in price is perhaps the most important economic problem in grades. It will surely prove the most difficult. It is especially difficult because the degree of price significance to consumers varies with the quantity of the particular characteristic designated in the grade. Moreover, grades may now become active elements in the determination of supplies. Supplies of particular grades are now restricted or expanded whenever subject to control until adjusted to the estimated prices of the new supplies. Likewise demand aspects are changed and quantities which consumers will take under the newly designated grades become significant in the determination of the prices of those grades. It may be supposed that if our designations are properly made more of the higher qualities will be sold than before at greater price differences. Economists may properly demand that these factors be given more adequate attention than in the past.

DISCUSSION BY THOMAS C. BLAISDELL, JR.

From the standpoint of the technical economist interested in marketing and distribution the problem of consumer grades is essentially one of establishing competitive conditions in order to secure a better functioning of the distributive mechanism. The use of commercial grades for purchas-

ing and selling has long been regarded as advantageous in making the competitive market function more smoothly. This attitude has, however, not been so prevalent in relation to the sale of commodities to consumers. That is to say, at those points in the distributive stream where buyers are best acquainted with the products which they are buying the use of grades and standards has become fairly well recognized. However, at the end of the stream, where people are least informed the principle has never been widely adopted.

This failure to recognize the necessity for consumer grades and standards has, of course, reacted against the smooth functioning of the productive system.

In connection with codes of fair competition under the recovery program the use of consumer grades and standards becomes of considerable importance. The concept of fairness has usually been applied only to fairness between competitors. Even if we take this narrow interpretation, it is clear that the use of consumer grades and standards is essential if the competition is to be fair. If there is to be open quotation of prices so that everyone may know the terms on which a person is selling his goods, it is of equal importance that there should be an open statement of the quality of the goods. Otherwise, the quoted prices mean very little.

RESEARCH IN PHYSICAL ORGANIZATION OF MARKETING¹

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In these days when economists are concerned with ways and means of boosting the price level and of adjusting production to market demand, the researcher in the field of physical organization of marketing is apt to be the "forgotten man." This discussion has been placed upon the program, no doubt, in order to remind you that there are still some unsolved problems in the physical assembly, transport, storage, and distribution of farm products.

There is little necessity, as I see it, for stimulating engineering research into new methods of transportation, refrigeration, and packing. The inventive genius of hundreds of individuals and corporations is devoted to turning out new appliances and improved processes every day. The real problem is to coordinate our physical plant and appliances with the economics of our distribution system in such a way as to secure maximum results. The economist must team up with the engineer.

There are a great many fields in which careful market research is fundamental to a proper plan of physical improvement in the distribution system. A few of the more important may be summarized:—

- (1) The proper geographic location of food warehouses, terminals and other distributing plants.

Are many country shipping facilities for concentrating livestock, milk, and poultry, obsolescent because the motor truck has made it possible to truck direct to city terminal markets or to regional redistribution markets? Is the cold storage warehouse industry over-built in some sections and under-built in others? Are the changing trends in the production and routing of wheat and other exportable commodities likely to modify the geographical demand for grain elevator space, cotton compresses, etc.?

- (2) The appropriate type and character of terminal facilities in large markets:—

Was the expenditure of more than one hundred million dollars by railroads for produce terminal facilities in large markets a decade too late, and will the future demand be for more motor truck terminals and chain store private terminals?

- (3) The future type and character of retail markets and food stores:

Will the corner grocery, occupying 5,000 to 10,000 feet evolve into a super-market occupying 50,000 feet, handling all sorts of foods, with parking space for automobile patrons?

- (4) The most economical and convenient type of container for shipping food-stuffs.

¹ This paper was read at the Twenty-fourth Annual Meeting of the American Farm Economic Association, Philadelphia, December 28, 1933.

Should containers be based upon the most convenient shipping unit, the quantity which a retail store can dispose of in short enough time to avoid waste, or the unit which the ultimate consumer will buy? To what extent must a product carry its own refrigeration with it? What types of packages are attractive for display purposes?

It is not enough for a railroad planning a new produce terminal, or a city planning a municipal market to have competent engineers to design a durable structure with an adequate foundation and walls of proper composition and thickness in refrigerator chambers. It is also important to have the advice of competent market research men on the traffic the terminal or market may reasonably expect to handle. This may depend upon many factors not yet apparent in the statistics of current market receipts. The future quantity of foodstuffs which may come in such a central terminal will depend in part upon the extent to which chain store operations are diverting foodstuffs to private warehouses for distribution. For example, in the New York Metropolitan Area, it is estimated that one chain store company is handling 10,000 to 15,000 cars of fresh fruits and vegetables at its own terminals, five in number, scattered about the district. Most of these cars formerly moved into central terminals and markets. This is about 5 per cent of the total receipts. Still larger portions of the butter and egg receipts are moving direct to chain store terminals. Livestock, which was formerly consigned to the Jersey City market for sale by commission merchants is now moving direct to packers plants in the metropolitan area.

It is also necessary to judge what portion of the traffic coming into a metropolitan territory will come by rail, by water, or by truck. The rail-hauled portion of the New York fruit and vegetable receipts of domestic sources has fallen from 82 per cent in 1929 to 67 per cent in 1932. The truck portion in the meantime jumping from 15 to 26 per cent. In Los Angeles the situation is even more striking, the truck taking over the haulage of practically 90 per cent of the fruit and vegetable receipts.

When inventors put ice boxes on wheels and made the refrigerator car they revolutionized the source of supply, the production map, the methods of transport, the middlemen, and the terminals and markets of the food industry. Every now and then some new improvement in transportation, refrigeration, or packaging threatens another revolution. The motor truck, construction of good roads, application of the thermos bottle principle to tank transportation of milk, transparent paper wrappings, and quick freezing processes follow in bewildering succession. These, together with changes in

business structure and organization, such as the growth of co-operatives, chain stores, cooperate milk distributors, exert a strong influence upon physical organization of distribution.

A large amount of money can be spent in market structures and equipment which may become obsolete in a very short time if the trend of physical distribution is not gauged far enough in advance to plan on the basis of the future rather than the past.

The methods employed by market research men in the field of physical distribution cannot, therefore, depend too much upon past experience. It is extremely unsafe to project trends based upon past statistics. The past and current factual picture of production sources, of market outlets, of methods of transportation, must be looked at in relation to the environmental factors which are subject to change. A change in tariff policy, a change in freight rate structures, may bring in new sources of supply and shut out old sources. The market research men must watch, on one side, the inventor, on another side the changes in business structure, particularly the vertical integration of chain stores and milk distributors, and in still another direction the governmental tariff and transportation rate policies. He must also be keenly aware of changing consumers habits and trade practices, the trend towards smaller purchasing units that accompanies the growth of urban communities. He must, to sum up, be a prophet as to what the future holds in all of these fields in order to advise what geographic locations, what type of facility, what type of container, will be most efficient and workable in a changing world. Truly, a real research job!

SIGNIFICANCE OF SOUTH AFRICAN AGRICULTURAL DEVELOPMENT

CLIFFORD C. TAYLOR

BUREAU OF AGRICULTURAL ECONOMICS

Most Americans know that the Union of South Africa produces most of the world's annual supply of gold and diamonds. Few of them know that the country, with a land area equal to the four southwestern states of California, Nevada, Utah and Arizona, produces as much wool as all our 48 states—one-tenth of the annual world production; that the Angora goat farmers of the Union share honors with those of the United States and Turkey in producing the world's mohair supply; that 10,000,000 cattle in the Union constitute the nucleus for a vigorous beef and dairy export trade; that South African citrus and deciduous fruit, maturing six months later than that of the Northern Hemisphere, supplies a large part of the English trade during certain months; that South Africa produces sufficient wheat for local demands and a considerable surplus of corn for markets abroad. Sugar, cotton, and tobacco are also produced in small volume.

South African production of these products has a definite influence on the prices obtainable in the United States for the American production. It matters little that the South African production is not shipped to the United States. It unquestionably adds to the supply on European markets and, therefore, affects European and American prices. The two sets of prices may be rigidly separated by transportation and tariff differentials but they move up or down together. At certain seasons the effect of South African supplies on American prices is of vital importance for certain products and at other seasons for other products but there are always one or more agricultural areas in the United States which are feeling the effects of South African competition.

Any program for a planned American production must be based upon facts regarding the probable production throughout the world, due consideration being given to both qualitative and seasonal characteristics. South African production prospects must unquestionably be embodied in such schedules of estimates. The planning of American agricultural production on the basis of probable world supply and demand is, fortunately, mutually helpful to farmers in those nations whose impending agricultural supplies are given consideration. A glutted foreign market would injure producers of other nations as well as of ours.

Our agricultural machine can not be abruptly stopped, started or even diverted; the momentum and the inertia are too great. We must look well into the future. What changes in agricultural competition can we expect in the Union of South Africa during the next five years?

Wool: The production of wool will not increase materially and will probably decline 5 or 10 per cent. About 95 per cent of the land in the Union is grazing land. Low rainfall, lack of irrigation water, shallow stony soil and high costs of transportation to distant markets ordain that the percentage must remain nearly this high. The preponderance of bushes, edible by sheep and goats only, throughout all but the northeastern third of the Union stamps it as a sheep rather than a cattle country. Common short-haired goats are of little use except for skins and can not compete with sheep except where grazing conditions are too unfavorable for wool production. Angora goats have proved more profitable (or less unprofitable) than sheep in only one limited area. Fine woolled Merino sheep now cover most of the grazing area and will continue to do so. The short-haired, fat-tailed mutton breed of sheep, Blackhead-Persian, has proved more profitable than either goats or sheep where grazing conditions are moderately severe, but the limited market in South Africa and the prejudice abroad against this very fat class of mutton precludes the possibility of the displacement of many Merinos by Persians. There is a probability that an export trade in fat lambs will be built up, chiefly Merinos and crossbred lambs from rams of Blackhead Persian or English breed, but conditions for fattening lambs are not favorable except in limited areas, chiefly in regions of higher rainfall toward the eastern coast. This lamb trade may curtail wool production possibly 2 or 3 per cent. Cattle will probably displace some sheep in the grass land area of southern Transvaal and the northern part of the Orange Free State where cattle and sheep are competing enterprises. These cattle are produced chiefly for draft oxen purposes, subsequently marketed for beef, but an increasing number will be raised for supplying the expanding exports of chilled beef. This factor will probably curtail wool production more than will the fat lamb trade. However, the chief factor limiting and even reducing the wool production of the Union during the next five years is the existing condition of over-stocking, over-grazing and deterioration of vast areas of sheep grazing land. This results in heavy losses by starvation during years of unusually severe drought, as in 1933. A decrease of possibly 10 per cent may be expected in South African wool production during this five-year period as compared with 1932-33.

Mohair: Angora goats require more favorable temperature and grazing conditions than do common goats. South African production of mohair has become concentrated in one limited area near Port Elizabeth. But as mohair production has increased in the United States and as foreign demand has decreased, the South African mohair producers have fallen upon evil days. The more outlying areas have turned to Merino sheep while the more arid center of the region has reduced its numbers of Angora goats in favor of Persian sheep or even common goats. For many, however, there is no alternative more attractive and the South African production during the next five years is likely to remain near the level of 10,000,000 pounds. Heavy accumulations of mohair were liquidated during 1932-33 at bargain prices but it would require more than a moderate increase in mohair prices to induce South African producers to expand production or even to check the recent curtailment. American producers may expect a somewhat smaller production of mohair in the Union.

Cattle: The South African cattle industry is the one outstanding case of gross agricultural inefficiency, from which it follows that cattle production can be, and probably will be, increased with profit to themselves despite foreign competition. Production costs can be lowered without the necessity of eliminating marginal production areas. More than half of the cattle of the Union are owned by natives (blacks), a condition unique among the Union's agricultural industries. The cattle occur in the grassland areas north and east of the dry sheep grazing areas. Nearly all of them are to be found east of the 20 inch rainfall line and chiefly in the areas around the native territory of Basutoland. Only 5 per cent of the total cattle numbers are slaughtered each year despite the very small proportion of dairy cattle. The native owned cattle occupy half of the available cattle grazing land but are commonly kept until they die and contribute little to the well-being of their owners. The cattle owned by Europeans (whites) in South Africa are commonly scrub stock, with some breeding for draft purposes, and are subject to malnutrition and various fatal diseases. A small minority of farmers have pure or well bred beef and dairy cattle properly cared for. However, bonemeal or phosphate feeding is gradually overcoming a serious mineral deficiency in the grazing; dipping and other health precautions devised by an efficient corps of veterinarians are making it possible to breed up good beef cattle from the disease resistant native cattle; and improved grazing and feeding practices are making it possible to carry the cattle successfully through the dry winter months. Of major importance is the

recent development of a small but expanding export trade in chilled beef which provides an outlet at higher prices for the higher quality beef cattle. About 600,000 cattle are slaughtered annually in the Union. Within ten or twenty years this figure will be doubled and within five years a considerable increase will be noted, especially if the efforts to induce natives to market their surplus cattle prove even partially successful.

A small butter and cheese export industry has been established in South Africa, largely under the stimulus of beneficent export legislation. This industry will probably expand further, especially in the better watered area of Natal, even though export bounty payments per pound must be correspondingly reduced.

Citrus Fruit: The citrus production of the Union has attained international importance during the past 15 years. Exports, chiefly oranges, will probably increase from the present level of 2,000,000 boxes to approximately 3,000,000 or 3,500,000 boxes within the next five years. This increase will come from trees already growing, not from additional plantings. These oranges reach England between June and October and compete chiefly with oranges from Brazil and California. The per capita demand for summer oranges is relatively small. Whenever summer orange supplies in England exceed 5,000,000 boxes, prices average below the 13 to 15 shilling price necessary to cover South African production and marketing costs. Brazilian exports are increasing even more rapidly than South African. The 5,000,000 box limit will be persistently exceeded, even though California oranges are entirely withheld. Unprofitable prices are likely to be general and marginal producers will be crowded out.

Deciduous Fruit: The South African deciduous fruit industry differs in some respects from the citrus industry but the outlook is the same. The former is concentrated in southwestern and southern Cape Province, only partly irrigated and is centuries old. The latter is widely scattered, all irrigated and of recent development commercially. Both have developed tremendously during the past 15 years, especially the soft fruit trade, under the stimulus of refrigerated ocean transportation. Both are conducted efficiently as to production and marketing. Both are confronted with export surpluses in excess of available market demands except at much lower prices. South African soft fruits compete with American apples on English markets. The deciduous fruit exports from South Africa have recently increased from 30,000 to 55,000 shipping tons of 40 cubic feet. Exports of 70,000 to 80,000 shipping tons are probable within five years time from plantings already made. Ex-

ports of soft fruits (apricots, nectarines, peaches, plums, pears and grapes) reach England from December to June. The business was originally a luxury trade—out of season fruits sold at high prices. As supplies have increased, lower prices have followed. New planting has been checked but increased bearing capacity of the trees is carrying production upward. During the principal marketing months South African soft fruits are almost without other foreign competition in the United Kingdom so that the market is particularly sensitive to South African volume. Lower prices seem inevitable during the coming five years except for apples, the South African supply of which is negligible. Sensing this, South African growers have restricted recent plantings chiefly to apples.

The deciduous fruit industry possesses a safety valve not shared by the citrus industry. If export prices become excessively demoralized, growers may swing over to the old established drying, canning and wine industries and find possible refuge for such varieties as are suitable for such outlets.

Wheat: The only important wheat area in the Union is in southwestern and southern Cape Province. Wheat has been grown there for 250 years but conditions are generally so unfavorable and yields so low that until recently domestic requirements have not been produced. The wheat industry has recently been legislatively encouraged by means of tariff protection sufficient to raise prices in 1932 to four times the price in the United States. No exportation from the Union is possible and, with diminished support from the government, imports of hard wheat for blending purposes will be renewed. However, the quantity required for the small population will have no appreciable effect on world price levels.

Corn: Corn is grown throughout the Union by both Europeans and natives. It is one of the principal items in the diet of the natives. The principal area is a triangle centering in the northern part of Orange Free State Province. Yields per acre are low but aggregate production is high. Except in years of drought exports are around 25,000,000 bushels, partly flat white varieties and partly round yellow (flint) varieties. Production increased rapidly after the World War but the industry was important before that period. There is no evidence of further expansion of production. Exports will probably decline as more corn comes to be used in the cattle industry. Hogs are unimportant because of the high proportion of grazing land of which hogs can make no use. The surplus corn will reach foreign markets in the more concentrated form of beef, butter and cheese. South African corn will diminish in international importance except in terms of its livestock products.

Sugar: Cane sugar is produced in a long narrow coastal belt in Natal Province. Yields are relatively low but, under government protection, sugar production has reached almost 400,000 tons. This is another "hot-house" industry. A high fixed price for that domestically consumed is maintained in the Union, guaranteed by tariff duties. Only the surplus need be exported at lower prices. However, by 1932-33 the export quota had increased to 51 per cent and the drag of export prices on prices to producers of sugar cane gave warning that production will not be further increased unless costs of production are reduced. Progress reported by a very efficient sugar research staff indicates that by extending the practice of irrigation and by the recent introduction of improved varieties of cane, production in the Union could be doubled within the next five years. A more moderate rate of expansion is probable.

Tobacco: There was a boom in South African tobacco production from 1926 to 1928 but the quality proved unsuited to the prevailing tastes and preferences of overseas buyers. Since the collapse which followed, production and overseas purchases have both climbed upward gradually. South African tobacco will probably displace a certain amount of American tobacco eventually, but the displacement will be very gradual and will come chiefly from Southern Rhodesia and Nyasaland rather than from the Union of South Africa. The Union produces about 15,000,000 pounds out of about 50,000,000 pounds produced in Southern Africa.

Cotton: Attempts to expand the cotton production of South Africa have met with little success. Yields are too low and more recently prices have been too low to sustain interest in the crop. No significant expansion of cotton in the Union need be expected during the next five years although the situation in other south and east African countries where cotton is produced chiefly by natives indicates that these countries, like Egypt and the Anglo-Egyptian Sudan, may eventually become important cotton producing countries.

Other South and East African Countries: South Africa is usually taken to mean the Union of South Africa because of its dominant importance and because in the other countries the white population is of negligible importance. There are, in fact, thirteen south and east African countries from Lake Victoria southward—eleven British and two Portuguese—having a total area equal to that of the United States. In one of these (Uganda) cotton production by natives for sale to European or East Indian traders has grown to very large proportions during the past 25 years. In another (Nyasaland) cotton and tobacco production by natives for sale to Euro-

pean traders has also grown to importance. Efforts are also being made in the other countries to induce the natives to enter upon the production of these or similar cash crops for sale and export. These natives do not respond to price influences in the normal way as is evidenced by the further expansion of cotton production in Uganda during the recent years of lowest prices. These natives also produce some grain and own, in the aggregate, many millions of cattle. A complete picture of impending production in southern Africa would call for a judgment concerning native production in these countries but information for such an analysis is not yet available and the picture must be deemed complete only with regard to the Union.

Conclusion: In planning an American agricultural production policy serious consideration must be given to impending agricultural developments in South Africa. These developments indicate: (1) a decrease in production of wool, mohair, and exportable corn; (2) an increase in the production of cattle, citrus fruit, deciduous fruit and sugar; (3) a probable increase in the production of cotton and tobacco, especially by natives in countries south of the equator other than the Union of South Africa.

The probable decrease in wool production transcends all other items in its significance because South Africa is predominantly a sheep grazing country and because South African wool represents so large a part of the world's total annual production. This decrease is a factor distinctly favorable to worldwide agricultural rehabilitation.

The probable glutting of English and other European markets with South African (and Brazilian) citrus during the months of June to October and with South African deciduous fruits during the months of January to May is a danger which should be anticipated by American fruit interests concerned with foreign outlets for surplus production.

The potential production of cotton, tobacco and (if prices improve) sugar in south and east African countries is enormous and while not offering any imminent danger should be given due consideration.

Millions of cattle may eventually come annually from Southern Africa if the natives come to consider them as commercial property and if trypanosomiasis and other deadly cattle diseases can be controlled.

THE INFLUENCE OF RECENT AND PENDING DEVELOPMENTS ON RURAL LIFE AND CULTURE IN THE UNITED STATES¹

EDMUND DES. BRUNNER

COLUMBIA UNIVERSITY

This is strange topic for a scientific gathering. The job of the social scientist has been to gather data about things past, not things to come. Only recently have the more practical, or if you will the more progressive, been concerned with things of the present and as a result an agricultural economist influences the monetary policy of the nation.

I submit that we should watch our step. When the physical scientist conceives an idea, mayhap for an invention, he goes to his laboratory and actually manipulates the elements with which he deals in an effort, frequently at last successful, to achieve his preconceived objective. We social scientists have been far too scientific for that. We manipulate nothing. We have no objective but learning the truth. We survey, observe, tabulate and correlate. Like some religious sects, we allow each reader to interpret our scriptures according to the dictates of his own wishful thinking. The idea of setting up actual experiments and watching meticulously and impartially the results has been far too unscientific for most, though not all of us to indulge in!

Perhaps by now you are wishing to remind me that my subject concerns not the influence of recent developments upon the culture or methodology of rural social scientists but upon rural culture.

I affirm there is a relationship. When the executives of our two groups agree to ask the performers on such a program as this not only to attack the difficult task of appraising the influence of recent events upon something as complex as rural culture, but also the influence of pending events they have but made the sort of demand society increasingly is making of us. Mr. Hoover asked social science to give him facts. Mr. Roosevelt is asking social scientists to act on facts in such ways that definite, preconceived ends in terms of social and economic well-being will be achieved for the American people.

I would point out then that whether the speculations of us who are about to die upon the altar of your criticism, interest you or not, this meeting serves its purpose if these speculations reveal to

¹ This paper was read at a joint meeting of the American Farm Economic Association and the Rural Section, American Sociological Society, Philadelphia, December 28, 1933.

you both the hazards and the necessities of the inevitable next steps in the progress of our related sciences. The controls in our future experiments must be more than statistical devices. They must increasingly be groups of functioning human beings studied by techniques still in the making, perhaps still sheltered in the wombs of our minds. If I am wrong in this, then we must revise some of our claims about the contributions of social science to social control.

One more preliminary remark; my instructions gave no hint as to what recent developments were deemed important, no forecast of what was pending, no definition of either rural life or culture. This brief cruise into the unknown then, has no prospectus. I shall steer an eclectic course, touching at such ports as seem to me of interest.

We shall, of course, start from familiar shores. Certainly one of the major influences of the last half century upon our rural life has been that of rising land values from 1890 to 1920. The reasons for this rise are too well-known to this audience to need discussion. It is the results that are important. By and large, during this period the American farmer received a dividend of from 8 to 10 per cent a year in terms of the original investment, simply through the factor of unearned increment. It was entirely possible for him to be an indifferent farmer, even to lose money as judged by good accounting methods and still retire with sufficient competence to live comfortably ever after. Few pointed out during those years in any effective way that the prices of land in dollars were rising more rapidly than the production of that land through more efficient methods and far more rapidly than the dollar prices of the commodities that land was producing.

From this and other factors I shall not mention, flowed a number of results. In the decades preceding this development the pattern of rural life was different. The farmer had viewed his acres as the foundation of his home and of the processes of his life, not as a commodity to be traded. He was building an enduring household, somewhat independent from the world, not a fortune. He measured his progress by the family skill in the processes of agriculture and of household crafts, not by his skill in buying and selling land. There were exceptions but this is the picture unforgettably etched by Herbert Quick, Willa Cather and others including most recently Louis Bromfield, and confirmed in the more sombre researches of the economists, sociologists and census statisticians.

The development placed at the disposal of those who remained in agriculture an involuntarily expanded capitalization by means

of which credit was more easily procurable than ever before in the history of the world's agriculture. This credit was used to buy more land and to mechanize the farm plant at the behest of the new god Efficiency, well publicized by the devices of business. Thus the old era passed. Agriculture became more and more specialized and hence more and more a business. It took in its cooperatives, the first steps toward imitating with rural adaptations, the techniques of the corporation.

Thus powerful influences were at work changing the cultural pattern of rural life and these forces had various material outcomes.

These are familiar to most of us. They can be expressed in terms of the conventionally measured standard of living. Rural people by 1929 operated more automobiles, had more radios and bathtubs, used more electric current, read more city newspapers than ever before. But they also invested some of their funds in better schools and roads, in libraries, health units, county associations with paid executives. They were as anxious as city people to acquire a full set of overstuffed community furniture. I say overstuffed, because it was built on an organizational or institutional pattern elsewhere planned, rather than a functional one. Now that agriculture has lost its billions in capital values and faces the task of making profits solely by its normal operations, there is much confusion.

So much for background. Where do we go from here? What will be the culture influences of recent and pending developments on our rural life? We could debate for some time the relative importance of the many recent developments when judged from the cultural point of view and when selected, our appraisal of their influences must fall between the Scylla and Charybdis of either tentativeness or dogmatism. I shall select three without more ado.

1. The complex of developments known as the agricultural depression.
2. The agricultural adjustment act.
3. The urban-rural migration of 1929-33.

Again, under each of these the cultural influences are not only many but also often blurred because of being contradictory. I venture now to catalogue a few of the possibilities.

The agricultural depression seems to have brought greater emphasis on fundamental matters. The agricultural specialist in wheat, cotton, peanuts or what not, is raising much more of his own food than was the case a few years ago. His wife is making more of her own clothes. The whole family has spent more time on all but forgotten handicrafts, skillfully urged on by the exten-

sion service and sometimes the schools. Recreation too is more frequently of the home-grown variety. In short, there seems to have been a nearer approach to actualizing an oft repeated dictum that agriculture is a way of life, than for some years.

The depression has also resulted in a wider interest in current social and economic problems that may have a continuing influence in rural life. The southern colonel, pillar of a local Methodist Church who discoursed to me eloquently in 1924 on the high positive correlation between Russian communism and the anti-Christ and who in 1931 averred that "he'd be doggoned if he didn't think Russia had more than half the right of it" is typical of hundreds of farmers and villagers with whom my field workers and I talked in 1930-31.

Such incidents it seems to me are more fundamental cultural phenomena than the farm strikes, although it should be noted that some farmers at least are thinking a bit beyond the Reno demand for cost of production. They know starving city people want the food they are raising. They know they lack what these unemployed could make. They are unimpressed by explanations of our situation, by talk of debts and national income. They insist on taking the American dream literally, they claim the right to exchange the indispensable products of their toil for a good life. The farmers are more vocal, more to the left than at any time in forty years.

Take now the Agricultural Adjustment Administration. The farmer is glad enough to get his bounty checks. In many places of which I've learned he has used them to pay obligations but he is inherently as uncomfortable as the mules who objected to stepping on the cotton plants, over the idea of destroying food and fibre, especially in view of the world's needs. The thrill of making living things from the good earth, is always present in the farmer's heart. This is one of the evidences that farming is a life as well as an occupation, even as teaching. Now the farmer judged from this historic attitude, is being paid to adopt the ethics of United States Steel. Some would say "bribe" because restricting production seems highly unethical to them, even if highly necessary under our present economic system.

It is too soon to forecast the results. The scheme rests largely upon local committees of farmers brought now into closer connection with Washington than ever before. The sociological effects of this organization and its contacts should not escape study. Will these groups become a potent force in marshalling rural public opinion and thus become politically powerful? Will they and the

agricultural adjustment act permanently change the ethical concepts of the farmer and develop from the agrarian group the demand for the permanent assumption of the rôle of Santa Claus by the federal government? If so, may not class antagonism increase? Or will the preachments about the death of laissez-faire and the coming of a socially planned economy capture the imagination of rural folk and make of them a great liberal block supporting and perhaps increasing the idealism of the present administration? Should this happen will our social control and planning extend to the rather fundamental problem of discovering how many farmers America actually needs and controlling the number accordingly.

Next under the head of recent developments with conceivable influences on rural culture consider the great urban-rural migration. The farm population of the nation is at the highest point in our history. The net loss from 1910 to 1930 has been more than wiped out. Villages also have gained. There are therefore, more people in rural America today than ever before, and also more who have tasted the allurements and the bitterness of the cities. They know something of libraries and fine schools, of bathtubs and cheap electric current, of moving picture palaces and amusement parks, of urban crowds and filth, of noise and advertising, of unemployment and perhaps of bread lines. Will they strengthen the demand of rural people for the best social utilities? Will they create a market for gadgets in the countryside? Or will they, succored in a time of need by Mother Earth, idealize all that they find? Japan is definitely trying to utilize her urban refugees to improve the countryside as the government defines improvement. She would. We wouldn't. The answer for us therefore, I will not even venture to suggest partly because it is so intimately connected with the problems raised by the other part of our question, the influence of pending events.

What is pending? Your answer to that question is as good as mine but upon the alternative possibilities we would probably come close to agreeing.

It is possible we will make a normal recovery from our present abnormal depression and the trends of 1910-1930, that Kolb and I have elsewhere described, will be projected into the future—a slowly enriching rural cultural life with increasing urban influences centering more and more around villages, towns and small cities. Of course, marring that pretty picture might come in some regions, corporation or large scale farming, reducing the average agriculturist to the status of a factory hand. Cultural conflicts of various sorts would probably arise in this case. Some of the oldest and most

successful corporation farms have had to simulate family farmstead conditions to get their best results. And rural people do not seem to react any too well to this type of control as witness the Elizabeth-ton and other strikes in 1929-30, when recent farmers first met the impact of industry as an employer.

On the other hand, civilization as we have known it may collapse. Subsistence farming will then be the only way out for many millions. Or if civilization does not collapse reduced industrial output plus technological progress may make it impossible for the cities again to offer a haven for the surplus population of the country. We may have by 1950 some nine or ten million farm families, the fore-runners of whom we already see outside Dayton and in the other developments being engineered under M. L. Wilson in the Division of Subsistence Homesteads. If these hordes are added to our rural population because our system tumbles down about our ears we face, of course, a new pioneer era, tempered in its struggle by what is salvaged from the present but culturally somewhat akin to the pioneer periods of the past. If the farming population increases under conditions comparable to those of 1930, because there is no other outlet for population, we face an interesting possibility. For under such conditions America will again be more than half rural and the rural half will hold the balance of power politically. Should this occur, I venture to guess that the benefits of whatever of civilization survives will be widely diffused and at government expense. The New Deal might even be actualized under conditions quite different from those envisaged by the optimists of the Brain Trust.

If then the New Deal, accidentally or not, in truth turns up the right cards you may write your own specifications of cultural change. It is an attractive picture that can be painted. A prosperous agriculture, its participants on good soil; a prosperous industry largely decentralized, its employees living where they can enjoy sunlight and air and support a good life in their doubled hours of leisure by efficient toil in their halved hours of labor—but why go on? To write a Utopia is not included in my charter. You may do that for yourselves.

However, before you begin that writing may I remind you of one thing. Many people assume that this crisis arose from extraneous causes. A few, many of them among our own number, realize that the extraneous causes but revealed the inherent weakness of the system. It is a system which in its overspecialization has probably reached the limits of complexity to which it can go. To the extent to which our crisis is thus inherent or fundamental, the efforts to

hold our course in the old channels are doomed to failure, nay, make the adjustment worse. Any sociologist knows however, that it is inevitable that the effort so to conserve be made. I for one, believe that we are moving in new directions. Whether that direction be toward an American version of fascism or state capitalism of the approaching Italian variety, or whether it be toward state capitalism of the Stalinesque type I hazard no guess. But I suspect that the enemy the New Deal is fighting is no popular devil comparable to the Germany of 1917, that can be conquered and forgotten. Our foe is not temporary. It is perhaps perpetual.

Hence my plea for experimentalism in our sciences for I believe that much of what appears of importance in our present researches will be as dry bones in Death Valley some decades from now. And if you ask for a still longer glance down the centuries in terms of cultural eventualities, I remember that the New Deal of Colbert in France that began in 1664, some provisions of which are all but identical to our present efforts, produced in the end Turgot and then later the French revolution which removed government from business with the philosophical blessing of Adam Smith and the once sacred doctrine of *laissez-faire*.

The sure thing is the certainty of great impending changes. The present administration may be voted out, succeeded by capitalistic fascism, but there will be no complete drawing back from the consequences of its attempts to try collectivism. The day of the common man has dawned, whether or not its sky be forever blue or much clouded. He may reduce civilization to a shamble. He may lift us to new cultural greatness. He may muddle along. Social science must be prepared for any eventuality, must guide to the best of its ability, must increase its ability so to do—or perish.

DISCUSSION BY W. W. WILCOX

BUREAU OF AGRICULTURAL ECONOMICS

The influence of recent and pending developments on rural life and culture is surely a huge topic for a luncheon meeting. In view of this it seems to me that my time can most profitably be spent by calling your attention to other important influences on rural life rather than confining myself entirely to a discussion of the points mentioned by Professor Brunner.

I am particularly interested in the influence which the Administration's policy toward agriculture will have on rural life. The objective is surely increased farm incomes—higher prices for smaller crops—more money for less work. If the objective of parity prices is actually reached it will mean a greater degree of rural prosperity than most groups of agricultural producers have experienced since 1919.

What about the influence of such prosperity on rural life? There would be more bathtubs in farm homes, more power washing machines, more homes equipped with electrical lights and furnaces, more and better radios, and finally more and bigger cars. This is all to the good.

Students of history and sociology also point out that with increased complexity of human society and increased contacts with the outside world; with increased money to spend and more time in which to spend it, several other things usually happen. It is not my personal opinion that they are sufficiently great to offset the advantages to be gained by a more adequate farm income. Nevertheless, it should be recognized that historical studies indicate that if we do get the degree of prosperity hoped for, with it we may expect underlying social influences tending toward such things as a lower birth rate and higher rates of insanity, suicide, and social diseases. We may also expect greater political independence and a weakening of the influence of the family. Technical progress in communication facilities is, of course, as important as prosperity in influencing the trends of which I have spoken. But our good communication system would no doubt be improved and the number of contacts farm families make increased if they get both higher incomes and more leisure.

Professor Brunner's remark regarding the farmer's ethics raises a question in my mind as to the possibility that the American farmer has already lost a number of the peculiarly rural cultural traits. I doubt if our farmers' reactions to destroying food and fiber were materially different from those of the industrial classes.

Professor Brunner pointed out that farmers are more articulate now than at any time in the past forty years. What effect will their experience and organizational success in commodity control programs have on future articulateness? The producers of the various commodities are forming organizations with a rapidity and strength even surpassing the labor unions in their most successful years. Also, it seems to me altogether appropriate to give considerable weight to the factor of class consciousness which these emergency activities are creating. Farmers are enjoying the experience of getting results by group action. They are having it driven home to them that the N.R.A. is for the laborer and business man and that the A.A.A. is for the farmer. Of course, they are not entirely overlooking the point that the broader and more common purpose of both acts is to improve national economic life. But the fact remains that the feeling of group solidarity is rapidly strengthening.

Imminent changes in farm economy and hence in farm life also interest me. The expressed objective of the Administration from the short-time point of view is a more adequate farm income for the same number of people by having each individual contribute less at least in the way of brute strength and energy. From the long-time point of view I am not sure whether or not they expect to provide for the same number, a larger, or a smaller farm population. In any case, they look forward to having the total farm population on a smaller land area. The trend would seem to be toward a smaller unit of land for each cultivator. Idealistically this can be accomplished to the mutual advantage of all by increased numbers of small acreages producing intensive crops and perhaps even increasing the size of operating unit on some of the present larger farms. Will it actually work out that way however?

Thus far the Administration's policy toward industry has been more in the nature of spreading old work among those unemployed rather than developing new outlets for products of industry. I am not questioning the advisability of such a policy at the present time but mention it because of the effect on rural life to be expected if increased demands for industrial labor do not speedily appear. Every year young people are maturing on the farms. The city has been looked upon as the natural outlet for a part of these young people. Is agriculture to be called upon to furnish higher per capita incomes for a larger population? Can she do it?

The commodity control programs may be successful and yet the per capita incomes will not be as high as desired because of this surplus of population dammed up on the farms. Such a situation will surely increase the cohesiveness of the family and increase the return to fundamentals in the way of providing for personal needs with non-purchased items.

May I conclude these very brief remarks by calling your attention again to the three thoughts. First, a prosperous agriculture will bring with it certain underlying social influences which are not usually regarded as desirable from a national point of view. This suggests that at least in some cases conscious action might be advisable to offset them.

The second is that present emergency activities of the Agricultural Adjustment Administration are developing a class consciousness among farmers and giving them an experience of results obtained by group action which is likely to continue to be important for years to come.

The third is that the longer-time land use policy, at least to the extent that it is definitely formulated at this time, seems to hypothesize normal migration of farm youths to industry. This is the more reasonable one to make in considering the long-time trend. But if this hypothesis does not materialize in the few years immediately ahead, a smaller land area for a larger population must mean fewer acres per cultivator. This suggests the possibility of a continued emphasis on the satisfaction of personal needs with a minimum of purchased items for many farm folk.

DISCUSSION SUMMARIZED BY E. D. TETREAU

(*Editorial note:* Following the formal papers, the chairman of the meeting called upon several agricultural economists. The following summary of the discussion and comments were prepared by Mr. Tetreau.)

Dr. Baker, during his brief impromptu remarks stressed the importance of population in relation to land, holding welfare of the people as the ultimate objective in all land-economic planning. He pointed out that a study of the number of deaths in large cities indicates that a rapidly increasing proportion of older people tends to concentrate in these centers, while urban-rural migrations of recent years have materially increased the proportion of younger people in rural population. Unless rapid recovery in urban industries absorbs excess rural population, we probably face a great increase in the numbers of families living on small farms.

Dr. Manchester emphasized the need for maintaining a sense of direction in the development and operation of the federal agencies concerned with the New Deal. He pointed out the need for an appreciation of social welfare in terms of the entire nation and its many social groups. This, he said, involves the development of a sense of social justice so that in-

dividual groups will temper their demands for advantage. Thus the injury done to other groups by the undue advantage of some groups would be reduced to a minimum. He also characterized the function of social scientists in this emergency as that of "quickenning the tempo of social change in the direction of equilibrium."

Dr. Falconer pointed out a practical difficulty which agricultural economists must face at present. In providing service and advice to farmers the economist finds that the New Deal adds one more uncertain element to the many other uncertain elements in the agricultural situation. He also showed how decreased acreages may lead to the substitution of less efficient methods of agricultural production. This in turn may lead to increased costs of food production.

Dr. Hobson spoke of the plight of the consumer in the New Deal. He queried: "Can agriculture be assisted by taxing the consumer who must eventually absorb the commercial products of the farm?" He briefly suggested certain implications of this difficulty in terms of a possible declining standard of living.

Due to the absence of a formal paper representing the point of view of the agricultural economist, certain aspects of the subject under discussion have been touched but lightly, or not at all, in the preceding papers and discussions. I shall do no more than state and very briefly expand a few points thus left open, after which I shall add a paragraph of summarization and conclusion.

Reform in banking practices under the New Deal, including the guarantee of bank deposits or the restriction of banking functions so as to exclude speculative ventures, may correct abuses which have depleted the mobile resources of agricultural people throughout our entire history. Farm people seem to be more concerned about sound banking than about sound money. Their visible losses in deposits due to bank closings give them more concern than their invisible losses due to the changing value of the dollar.

The Farm Credit Administration with its alignment of credit facilities as applied to land, livestock and crop production, and cooperative organizations, strikes into the texture of rural culture, not so much by making credit available, as by providing forms of credit which are intended to suit the conditions peculiar to the operation of agricultural industries. The structure, personnel, and procedure of this Administration indicate no short-time venture, but rather a constructive long-time attack upon a serious problem. Since credit facilities are particularly necessary to the development of commercial agriculture, which in turn constitutes an important element in the economic frame-work of rural culture, the long-time influence of the Farm Credit Administration upon rural culture constitutes an important aspect of this subject.

Dr. Brunner has shown that the crop adjustment program of the Agricultural Adjustment Administration has disturbed the agricultural tradition which requires the conservation of all that is produced. In this connection, a distinction between the point of view of the subsistence and the producers of commercial crops should be made. It is probably quite true that the subsistence farmer is (using Dr. Brunner's term) inherently uncomfortable over the idea of destroying food and fibre. Since his utmost effort yields only a sufficient return to provide a meagre living

even during the best years, the destruction of crops and livestock products has no place in his way of living. But the producer of staple or special commercial crops has regularly practiced restriction, and even destruction of products in the field, and on the tree and vine, as a means of obtaining a larger return. The unique element in the present situation consists of large-scale systematic procedure along these lines rather than scattered individual effort.

One of the most significant changes which the New Deal is bringing about appears in connection with the political-economic patterns which characterize the thought of our major agricultural regions. As the program of acreage adjustment of commercial commodities progresses, the significance of our loss of foreign markets strikes home. Farmers of the West and South, in the face of glutted markets at home and closed markets abroad, are offered the alternatives of drastically reduced production, or readjustments in international trade which will result in satisfactory prices for such surplus commodities as cotton, pork products, and tobacco. Putting it in very general terms, the political-economic thought-patterns of the farmers of the West and South are being moulded into similar forms as their common interests are being redefined in terms of governmental policy and action in dealing with the seemingly insoluble problem of surpluses.

Unusual losses of crops and livestock due to drought, hurricane and flood, have increased the misery already wide spread in rural areas due to the effects of the prolonged depression of prices of agricultural commodities. To meet the situation relief has been granted to rural people at federal expense, during the past several months, to an extent never before known in our nation's history. This work has been carried on with some appreciation of needs peculiar to the culture of rural people. Feed for livestock has been distributed as a wage for labor on roads or on other local projects, and cash wages to farmers have been paid for civil works employment. Nevertheless, it has been necessary to grant work relief and direct relief, in the stricter sense of the term, to great numbers of rural families never before known to relief agencies. Although it is difficult at present to evaluate the effects of these forms of relief giving upon the culture of rural people, it is very probable that rural organization for the performance of this function will be modified, and the attitudes of both relief and nonrelief families toward each other will be changed.

The subject under discussion at this joint luncheon lends itself not so much to fine-edged analysis as to preliminary appraisal. To this end a beginning has been made in the preceding papers and discussions. In the closing word it may be well to point out that the significance of the New Deal will be missed unless viewed in the light of the large objectives of a more abundant life for the common man, as well, of course, as for those others whose good fortune it has been never to know the pinch of poverty nor to feel the pangs of hunger for bread.

HANDLING DELINQUENT FARM MORTGAGES WITHOUT FORECLOSURE¹

H. C. M. CASE

FARM CREDIT ADMINISTRATION

A brief statement should be made preliminary to the discussions indicated on the program for this round-table session. A proposal was made to the American Farm Economic Association last year, that the Association in some way take action to provide for co-operation with other institutions, to consider various questions pertaining to the farm debt situation. Following conference with representatives of other organizations attending last year's annual meeting, the Executive Committee of the American Farm Economic Association sponsored a plan which was adopted by the Association. This provided for the appointment of a committee of seven from the Association, of which Dr. E. C. Young was made chairman, and for the appointment of one member of the Association who would be responsible to this committee and who would work with other organizations on farm debt problems. The writer was the person named for this responsibility.

Preliminary plans were made at the time of the annual meeting of the Association last year, with representatives of several organizations, for this cooperative undertaking. Following some correspondence with representative organizations interested in both the debtor and creditor aspects of the farm debt problem, a conference was called at St. Louis last February. From among the associations invited, representatives attended from the American Farm Bureau Federation, the National Grange, the American Agricultural Editors' Association, the American Farm Economic Association, the American Society of Farm Managers, the Federal Land Banks, the Life Insurance Farm Conference, and the Joint Stock Land Banks.

Mr. D. H. Doane, President of the American Society of Farm Managers, and a member of the American Farm Economic Association, was elected chairman of the conference, and the group organized as the National Joint Committee on Rural Credits. This central committee discussed the farm debt problem, and determined upon various aspects on which it was felt that existing facts should be assembled in reports for convenient use, or on which some original committee contribution was needed. Each cooperat-

¹ This paper was read at the Twenty-fourth Annual Meeting of the American Farm Economic Association, Philadelphia, December 27, 1933.

ing organization was to be asked to name a representative to assist on each subject-matter committee. The central committee agreed that the following topics deserved separate treatment as promptly as committees could be named to undertake reports:

1. Handling Delinquent Farm Mortgages without Foreclosure.
2. Legislation Pertaining to the Farm Debt Problem.
3. The Handling of Foreclosed Farms.
4. Taxation as related to Farm Credit Problems.
5. Future Agricultural Trends Affecting Credit Policies.
6. Farm Debt Adjustments through the Aid of Voluntary Committees.
7. Principles of Land Appraisal.

The program of this round table for the most part has to do with the activity of these committees and the problems as viewed by them. The work of the committee entitled "Handling Delinquent Farm Mortgages without Foreclosure,"² took the form of a preliminary report, which was distributed to the various organizations for criticism and comment. The following discussion consists largely of excerpts from the preliminary report with some additional contributions based upon suggestions which were submitted later.

The main purpose of the report on "Handling Delinquent Farm Mortgages without Foreclosure" is to set forth suggestions for farm debt composition and extension agreements which may help to avoid farm foreclosures at the present and in the future, and which are equitable to both debtors and creditors.

Farm Debt Facts

Preliminary to an analysis of possible adjustments relative to farm debts, there are a few practically axiomatic observations which should be made.

First, the debt burden became acute primarily because of the low level of prices for agricultural products. These prices were and continue to be relatively low compared with the prices the farmer must pay for goods and services purchased. Any suggestions for a general reduction in the principal of farm debts, therefore, presuppose a continuation of prices which are relatively lower than at the time the debts were contracted.

Second, some farm debts were contracted during periods of extremely high price, and can be justified only under a return to similar high price levels. Some debts contracted during the war-

² Mimeographed preliminary report prepared for distribution. Chairman, H. C. M. Case, College of Agriculture, Urbana, Illinois.

time prices, for example, are so large that many creditors would rather reduce the principal or the rate of interest on the indebtedness than go through the process of foreclosure, thus adding the expense of foreclosure to their expense of possessing the land, which, if sold immediately, would necessarily be disposed of for less than the face of the farm mortgage. This would be true of some existing farm mortgages even if the future price level of farm products should be considerably above that of pre-war days. There are some creditors who would no doubt prefer to reduce the principle of such loans rather than to accept a deed to the property, which they would not be in a position either to operate or manage. On the other hand, there are a few unscrupulous creditors who will seek the opportunity of foreclosing mortgages which they believe are for less than a fair value of the property in order to reap the benefit of securing a farm at a bargain price or profiting from an improved land market.

Third, any policy of handling farm mortgages prior to foreclosure should recognize the necessity of maintaining the credit rating of agriculture for the future good of the industry. Serious as the burden of debt is for many individual farmers, about 50 per cent of the farms have no mortgage indebtedness, although in many of the better farming sections practically three-fifths of the farms are carrying a mortgage. Probably 50 per cent of the mortgaged farms in many areas are carrying an indebtedness which amounts to less per acre than two-thirds of the current selling price of similar land. If the price of land recovers from the present low level due either to a rise in the price of farm commodities or a reduction in interest rates or both, the credit position of farm borrowers will change accordingly. It appears, therefore, that somewhat less than 25 per cent of our farms are in a serious debt position provided there is moderate price improvement. It is true that many owners of mortgaged farms are finding temporary difficulties in meeting their interest payments and are unable to retire any part of the principle. The point of this statement is that over 75 per cent of our farms still have a good credit rating which should be protected in any plans which are offered for meeting the current situation. In consideration of future credit facilities for agriculture, it is essential that agriculture maintain the high standard it has held in the past as a credit risk. It is the desire of agricultural borrowers generally to ask only such adjustments as appear sound in the light of current conditions, and it is the desire of lending agencies generally to grant such adjustments as appear sound and equitable.

Fourth, lending agencies in general should recognize their full responsibility in the present farm debt situation. It is their responsibility to handle the credit problems of their borrowers with a consideration which will preserve this field of investment and not make farmers unduly cautious in future borrowing. This statement is made in the interest of creditors who wish a future investment field such as is supplied by farm land as well as in the interest of farm debtors. The responsibility of credit institutions, however, reaches still further. When farm loans were made originally the creditor was satisfied with the security offered or the loan would not have been consummated. When the debtor has lost his full equity due to the depreciated value of the property and has put forth his best effort to fulfill his contract, no undue advantage should be taken of his temporary inability to fulfill his full obligation by forcing the settlement of contracts that are in arrears as a result of low prices. A mutual responsibility for farm debts exists on the part of debtors and creditors, but the immediate distress extends to causes beyond the control of either party.

Fifth, the public needs to understand more fully that the farm debt is one of the most important national problems of adjustment. The wise handling of the farm debt problem may determine whether agriculture will be a profitable commercial enterprise or a system of peasant farming. No other industry more vitally affects the business activity of the nation, since most of the purchasing power of nearly half of the population is quite directly derived from the sale of farm products. If too large a proportion of the farm income is required to pay interest on farm mortgages, farmers will not be normal buyers of goods and services needed for the maintenance of the farm and the welfare of the farm family. If in addition to obtaining a reasonable standard of living it is not possible for the farmer to maintain the fertility of the soil through proper drainage, terracing, and fertilizing where needed, if necessary equipment is not replaced, and if the health and quality of livestock is not maintained, it will become increasingly difficult for the farm to carry its debt burden; whereas, if it is made possible for the farm to become and remain an efficient producing unit, a reasonable indebtedness will be retired gradually and the farmer's purchasing power will be progressively increased.

Sixth, a complete moratorium of farm debts as distinguished from a moratorium on foreclosures does not appear to be an acceptable approach to the farm debt problem, even on a temporary basis. Over 60 per cent of the farm mortgages are held by insurance companies, commercial banks and mortgage companies, and the

federal and joint-stock land banks. These in turn represent assets in trust for paying insurance policies, bank depositors, holders of mortgage bonds, and owners of the bonds of federal and joint-stock land banks. These types of securities have been regarded among the most secure forms of investment. A complete moratorium of payment of interest or of the principle involved in such loans would destroy much of the confidence of the public in these investments. As compared with a complete moratorium of payments even a partial current payment of these obligations up to a reasonable ability of the debtors to pay will do much to maintain the credit position of agriculture. Even under normal conditions a certain amount of foreclosure is inevitable, and in many instances it may be the best solution from the standpoint of the debtor as well as the creditor. However, rather than force the terms of the mortgage contract, all possible opportunity for conciliatory settlements of the farm debt problem is desirable in order not to add to the cost of what is already a heavy debt, and in recognition of the fact that in general the farmer's inability to meet his commitments is beyond his immediate control.

Seventh, a reduced rate of interest on farm mortgages is acceptable only when loanable funds can be secured on a basis that involves no loss. If it is possible through sound lending policies to reduce the interest rates to agriculture, it is to be desired. With wise handling of farm credit problems, a business depression such as we are in should establish more firmly the relative security of reasonable farm loans as one of the safest forms of investment and the reward should be long-time loans at relatively low interest rates.

Eighth, due to price conditions which have existed over the past three years, farmers were in a position where they were temporarily helpless to meet heavy debt commitments. In continuing to operate their farms they had to meet certain necessary cash outlays and provide for necessary living expenses. It was difficult throughout 1932 to secure sufficient funds for these purposes from the sale of the products of the farm, even though the farmers did not attempt to maintain operating equipment and other investments through making usual replacements. It has been the accumulation of open accounts, notes and delinquent taxes and interest, which would normally have been paid from current farm income, that has been responsible for many of the distressed farm loans. Creditors are beginning to recognize that forcing the farmer to pay the last penny he is able to pay on current indebtedness makes him unable to maintain the productivity of the farm prop-

erty. It is becoming increasingly important that the maintenance of farm property be kept uppermost in the minds of both borrowers and lenders. If some worthy debtors are to be permitted to retain title to their farms, it is necessary to effect new workable agreements between the debtors and their creditors. In many cases the present occupant of the farm will return more income to the creditors than the average man who might succeed him on the farm in event foreclosure is resorted to. Furthermore, such debtors will do a far better job in operating the farm and maintaining the premises if they remain as title holders of the property, although a marked "scale-down" of the debts is required or some form of a workable extension agreement is developed. There appears to be no good reason why reasonable debts should be scaled down, though other types of adjustment affecting the payment of such debts might in some cases prove advantageous to both debtor and creditor.

The Security of Farm Mortgages

Even though agricultural income drops to an extremely low level there is still some income which may be used to help pay necessary maintenance expenses, taxes, and interest. In order to avail themselves of the long-established security afforded by farm mortgages, creditors should be willing temporarily to bear some of the misfortune of a low price level for which the farmer is not responsible. The indebted farmer, on the other hand, because he does have some assured income, at least in the form of living secured from the farm, should be willing to cooperate fully with creditors in an orderly use of his income in meeting necessary cash costs of living, farm operation, interest payments, and, when possible, principle payments.

Thus in agriculture there is more opportunity than in most types of industry for debtors and creditors to cooperate in times of stress, sharing what income there is on a basis which will maintain the farm home and other farm property as a going business unit and permit the debtor to maintain operating equipment at an efficient production level so that the resources of the farm may be used to the best advantage under existing economic conditions. In general, this is not a time to exact all that might appear to be permitted under law to the point of handicapping the operation of the farm or dispossessing the owner, but rather to develop plans which are in accord with present conditions.

A cessation of farm foreclosures, except in cases of abandonment, or neglect, or unwarranted delinquency, merits careful considera-

tion until there is more certainty as to the future level of prices. A moratorium on farm debts, including current interest payments, does not represent the spirit in which farmers generally prefer to meet their financial responsibilities. In the long run, debts of any kind must be met out of the earnings of the industry or business on which the loans are made. Unless the loans are conservative on the basis of the earnings of the business, adjustment of the debts or foreclosure in the long run will be inevitable. Since no two farm debt cases are alike the solution would appear to rest upon a careful analysis of the situation with respect to all worthy distressed debtors on their respective merits and the effecting of reasonable conciliation based upon the current income from the property and the ability of property over a period of years to carry a debt.

Statements made with respect to the country as a whole will not apply to some communities. In most areas, less than 20 per cent of all farms have distressed debt conditions that are in need of the type of adjustments hereafter discussed.

Remedial Measures

It appears that the immediate problem with respect to distressed farm loans of worthy debtors is that of securing the composition of debts as a permanent adjustment of individual debt problems or extension agreements that provide temporary adjustments and prepare the way for a future equitable arrangement of distressed debt cases. These approaches to the problem should lead to a minimum of loss on farm loans to creditors and to the encouragement of farmers, who, though in financial distress, are competent operators. The following are a few suggested types of adjustment which may fit different types of cases where the debt burden is too great:

1. *Reduction of the Principle of Debts:* In some instances, creditors are willing to accept a reduction of the principle if a cash settlement of the debt can be effected. Such reductions are acceptable to creditors who believe that the price level for farm products and the things farmers buy makes it impossible for the particular farmer under consideration to carry the present mortgage.

The federal land banks in the refinancing program arrive at the loan value of farm property upon the basis of 1909-1914 commodity prices. The law under which these banks operate provides that federal land bank loans may be made in the amount of 50 per cent of the appraised value of the land plus 20 per cent of the value of the buildings to the farm. In addition, a Commissioner's loan may be approved for an amount representing the difference be-

tween the federal land bank loan above mentioned and 75 per cent of the normal appraised value of the farm, provided that a Commissioner's loan may not exceed \$7,500 in any case.

While in many instances, the combined loans approved by the federal land bank exceed the total first mortgage loan made by the principle corporate lenders during the period from 1909-1914, it is also true that many farm mortgages greatly exceed this level. Frequently these loans are in the form of multiple mortgage notes which are held by a number of different creditors. Often, however, the need of such creditors for cash is such that they prefer to reduce the principle of their mortgages if necessary, in order to receive a cash settlement.

2. *The Reconstruction of Farm Mortgages:* The debt difficulties of many farm debtors arise from the fact that there has been an accumulation of open accounts, delinquent taxes, interest, and other items, which normally would have been paid from the current income from the farm. This accumulation has become so large in many cases that it is necessary to arrange payment over a period of years. Frequently a creditor is willing to have the first mortgage continued, if the debtor can secure a Commissioner's loan which will take up the minor indebtedness. It may be necessary to "scale down" such minor indebtedness in order to refinance it with a Commissioner's loan.

A first mortgage holder may be willing to reconstruct his mortgage, especially when it is not excessive, incorporating in it the delinquent interest and principle payments. Sometimes such a mortgage holder is willing to take up some minor indebtedness where the junior creditor wishes to make settlement on a scaled-down basis.

Thus, the first mortgage holder may be willing to assume this additional loan burden in order to retire junior creditors and remove the danger of foreclosure, for example, of a chattel mortgage. This may require taking a chattel mortgage by the first mortgage holder to protect both himself and the debtor.

3. *Adjustment of Interest Rates:* An adjustment in the interest rate has the same effect as changing the principle of the mortgage, that is, a reduction in the interest rate reduces the amount the debtor must pay. One type of settlement frequently made is for creditors to accept a lower interest rate temporarily pending the adjustment of prices on a more permanent basis. It is conceivable that some lenders would prefer to adjust the interest rate to correspond to farm incomes rather than to reduce permanently the principle of the mortgage.

It has been suggested that a flexible rate of interest which would take into account the general price trend is one means of helping to adjust payment so that the borrower will have a comparable burden of payment from year to year as prices change. The plan of a flexible interest rate may be extended to include a heavier payment on the principle in years of unusually good prices.

4. *Payment Based upon Accounts*: One means of carrying a distressed but worthy farm debtor is on the basis of the amount of money he is able to pay his creditors currently. This seems to be a fair method of adjustment with efficient farm operators. The best approach to this settlement is to require a careful accounting of the debtor showing the amount of money used for the farm family, the operation of the farm, taxes, and divide the remaining current income available to pay his creditors on the basis of a pre-arranged plan provided for in an extension agreement entered into with his creditors. This may best take the form of paying a certain percentage to each creditor. In cases where the debtor is honest and a skillful farm operator his creditors are likely to obtain more under this plan than by having had him displaced by a less skillful tenant as might be the case if foreclosure were resorted to. In any extension agreement, the plan of adjustment should be written as a legal contract.

5. *Adjustable Payments*: Adjustable payments which take into account changes in the general price level are relatively new in the United States, but are being given consideration by many creditors. The more common types of adjustment include:

(a) Payment based upon the current price of a given amount of product.

(b) Payment based upon a share of the actual production of a farm.

(c) Annual payments on an index basis.

All of these types of payment have an advantage to the debtor in protecting him in times of unfavorable prices for farm products. Also they protect the creditor, that is, the payment is adjusted to prices and can be enforced more effectively in years of low prices. Under a plan of payment of a definite amount of money, a debtor may be unable to meet the full payment and, therefore, delay unnecessarily in making any payment.

(a) Payment based on paying the current price of a fixed amount of commodities has the advantage of making an annual payment that is in accordance with the price level of farm products which he has to sell, and it states the payment in terms which can be met with less difficulty under all variations in price conditions than a

fixed cash payment. A disadvantage of this plan is that it does not take account the variation in production from one year to the next, due to seasonal conditions.

(b) Payment based upon a share of the actual production of the farm is acceptable to many local creditors or where the creditor has full confidence that the debtor will make a fair division of his production. A debtor should be able to pay at least as much as he would normally pay in rent for the purpose of paying first his taxes, and second, to apply as interest due on his mortgage indebtedness.

(c) The payment of either interest or mortgage principle on an index basis assumes that an index will be available for the local price of farm products. In many states such an index is prepared each year by the state agricultural college. There are some disadvantages of such a plan. In the first place, prices of different farm products do not behave in the same way and secondly, the proportion of products sold from some farms is very different from that on other farms in the same community. Also, the plan would be an unfortunate one for debtors in years when a high price results from poor production conditions.

6. *An Assignment of Lease*: In some of the most serious distressed farm mortgages where the farm is not now occupied by the debtor, the assignment of the farm lease to the creditors is one type of temporary adjustment suggested. The assignment of lease protects the creditor in the event of any controversy as to the collection of rents and as to things which the lease might require the landlord to do, such as fencing, tiling or building improvements. The tenant is usually required to sign the assignment of lease and his signature should be witnessed. Under this plan the taxes of the property will be paid out of the rental income and the net proceeds will then be applied upon the delinquent and current payments of interest on the farm mortgage.

7. *Grant of Possession*: A grant of possession frequently is used where a man is in serious debt difficulty. The grant of possession gives the entire management control of the property to the creditor who, in accordance with the type of agreement which may be drawn up, is usually required to pay, first, taxes, then insurance, then upkeep and necessary improvements, then necessary seed, and to apply any surplus to the payment of interest or principle. While this gives almost complete control of the property to the creditor, the debtor still retains the record title and has the right to sell the farm and clear his indebtedness at any time. Usually a grant of possession has no definite time limit; neither does it set any date to which foreclosure will be withheld. It is understood, of

course, that the grant of possession is usually used only in the most distressed cases. It may provide that, if the mortgage is later foreclosed, that any personal deficiency judgment will not be taken against the debtor. This kind of an arrangement usually involves giving the debtor a lease to the property at the same time the grant of possession is executed. This provides that the creditor will get the same return from the farm as though he had title to it but the debtor is assured of the tenant's share of the crops for operating and living expenses. It is in the nature of an extension agreement and might be drawn to cover a certain period of time. The success of this scheme is shown by the fact that some debtors who have operated under the grant of possession have requested their creditors to continue such control of the property until they are assured that prices are at a better level, fearing that if they again took up the mortgage they might become delinquent in the near future. It would not appear that the heavily involved debtor who is faced with a probability of early court action should hesitate to enter into an agreement for a grant of possession with creditors of the right type. Also creditors generally should prefer to take a grant of possession rather than to accept a deed to the property. Some discouraged debtors who request creditors to accept deed to a property might better give a grant of possession especially when it exempts them from a deficiency judgment in the event that foreclosure may eventually be taken.

8. *Surrender of Title with Repurchase Privilege:* The transfer of title to the creditor with a resale contract to the debtor on the basis of crop payments is a type of adjustment for serious debts which is being used in some instances especially where land values are low and of uncertain future trend.

LEGISLATIVE APPROACHES TO FARM DEBT PROBLEMS¹

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At the annual meeting of the American Farm Economic Association held in Cincinnati, Ohio, last December, it was decided that the Association would cooperate with the American Society of Farm Managers in setting up a National Joint Committee on Rural Credit. It was intended that this committee should function as a clearing house for information relating to the various phases of the farm debt problem. Among the various sub-committees appointed by the National Committee was a sub-committee on legislation and adjustments. This sub-committee addressed a letter to at least one person in each state requesting that person to undertake the work involved in following up and reporting upon legislation in his particular state dealing with the farm debt problem. This paper is a brief digest of that inquiry.

The reports received indicated considerable variation in the measures taken to meet the debt situation. In some states little or nothing was done. In others, numerous pieces of legislation were passed. The legislation passed may be roughly classified under the following headings:

1. Legislation providing for partial or complete moratoria for varying periods of time.
2. Legislation preventing mortgagees from obtaining deficiency judgments or limiting their rights under such judgments.
3. Legislation designed to ease the tax burden.
4. Miscellaneous legislation providing for the creation of debt conciliation bodies, changes in usury laws and reductions in the legal rate of interest, the extension of the period within which property sold at foreclosure sale may be redeemed, etc.

In Arkansas, two acts, popularly known as moratorium acts, were passed at the 1933 session of the legislature. One of these acts provided that:

In fixing the time when a sale is to be made under a foreclosure decree, the court shall have regard to economic conditions, and shall fix the date of sale at a time that will insure, if possible, a fair price for the property, having due regard to the interest of both the creditor and the debtor.

Before confirming a sale, the court shall ascertain whether or not, on account of economic conditions, or the circumstances attending the sale,

¹ This paper was read at the Twenty-fourth Annual Meeting of the American Farm Economic Association, Philadelphia, December 27, 1933.

a fair price, with reference to the intrinsic value of the property was obtained. If it is made to appear to the court that a better price could be obtained at resale, or if anyone agrees to bid a substantially higher amount at a resale, the court shall order a resale on such terms as the court may require.

In Idaho, legislation was passed authorizing the Governor to declare legal holidays in addition to those previously prescribed by law whenever in his opinion extraordinary conditions exist justifying such action. This grant of authority automatically terminates December 31, 1934. The Governor is authorized to limit those holidays to such classes of business and to such activities as he shall designate. The first proclamation issued by the Governor under authority of this law limited such holidays to the following:

- (a) Foreclosure of mortgages on real estate.
- (b) Foreclosure of contracts for the sale of real estate.

In North Dakota the Governor issued a proclamation declaring a two-year moratorium on real estate foreclosures. The original proclamation included all foreclosures but was later modified to include only foreclosures on farms operated by resident farmers.

Legislation was passed in a number of other states providing for a moratorium or a virtual moratorium, on foreclosures varying in length from sixty days to two years. In a few states proclamations were issued by the governors requesting leniency in the matter of foreclosures and in others judges put themselves publicly on record as opposed to vigorous prosecution of mortgage foreclosures.

Several states passed legislation prohibiting the granting of deficiency judgments. Others provided machinery to prevent their misuse. For example, Chapter 13 of the 1933 laws of Wisconsin provides that:

Before sale in any action for the foreclosure of a mortgage in which judgment shall be entered prior to January 1, 1938, the court shall exercise its equitable powers and shall, at the time of the rendition of judgment or at any time thereafter before sale, upon the application of any party in interest, determine and fix the value of the mortgaged premises.

At the 1933 session of the legislature of South Carolina an act was passed providing that when a farm is sold under mortgage the subsequent deficiency judgment secured shall be for the full amount of the indebtedness less the true or normal value of the property sold, as determined, presumably, by an appraisal ordered by the court.

Probably the most wide-spread type of legislation designed to relieve the farm debt situation was that relating to ways and means of easing the tax burden. Several states passed legislation,

or were considering the passage of legislation, at the time we received our reports, providing for the amortization of delinquent taxes over a period of years. Penalties and interest charges on delinquent taxes were either waived or reduced in a number of states. Others offered what amounts to a substantial discount for the cash payment of taxes. At least one state declared a moratorium for one year on the sale of property for the non-payment of taxes. A few states extended the period within which property sold for taxes may be redeemed. Legislatures were apparently well aware of the demand for some kind of relief from the excessive tax burden on real estate.

In addition to legislation providing for moratoria, restricted use of deficiency judgments and for relief from excessive tax burdens, a number of interesting pieces of miscellaneous legislation were passed.

Connecticut passed a law providing that before any receiver or other liquidating agency of any bank in liquidation can sell, or offer for sale, notes secured by mortgages on farm real estate for an amount less than the face value of such notes, the makers of the notes and the owners of the mortgaged real estate shall be given opportunity to purchase such notes at the price for which it is contemplated such notes are to be sold. Thirty days is allowed for the exercise of this privilege.

Wisconsin passed a law providing that if, at the time the legislation was passed, a judgment had been granted in a foreclosure action but the sale had not been held that the plaintiff must apply to the court for an order to sell, sending copies of such application to all of the parties to the foreclosure action and their attorneys. On hearing all the facts and circumstances in the case, the court was authorized to refuse permission to sell for a period of two years beyond the one year redemption period previously provided. However, such emergency period may not extend beyond March 1, 1938.

In reviewing, even in a superficial way, the mass of recent legislation bearing on the farm debt problem, one is struck by the great variability in the provisions of the laws. While it is doubtful if much can be done to bring about a greater degree of uniformity, the need for greater uniformity is apparent. This is especially evident when it is considered that large agencies that lend over wide territories, such as the federal credit agencies, are becoming more and more important as a source of farm credit.

In reviewing recent legislation the question inevitably presents itself as to what effect certain provisions are going to have on the

supply of funds available for making farm loans. Moratoria and the passage of legislation preventing the taking of deficiency judgments, or the virtual suspension of such laws, prohibit the creditor from collecting amounts due him. While it is recognized that the strict enforcement of such laws would deprive many persons of their homes as a result of circumstances over which they had no control, it must also be recognized that in the long run persons with money to lend are not likely to be anxious to lend on classes of security where they may find themselves deprived of their right to collect. The problem of how far to go in protecting borrowers without taking action that will be harmful rather than helpful from a long time standpoint is a difficult one.

As was to be expected in the circumstances, most of the recent legislation passed by individual states was of an emergency character designed to hold the line until some sort of relief could be brought up from other directions. It is recognized, of course, that the fundamental difficulty lies in the gap that exists between the prices that farmers receive for their products and the prices they must pay for the things they buy. The legislative approach to the farm debt problem has of necessity been in the nature of providing temporary relief until underlying conditions right themselves.

REPORT OF THE COMMITTEE ON RURAL APPRAISING OF THE NATIONAL JOINT COMMITTEE ON RURAL CREDITS¹

D. HOWARD DOANE

Basic to all else in rural value, farm loans or other types of financing, is correct appraising. A recent investigation by one of our agricultural colleges to determine the attitude of those who had had experience with the various divisions of governmental financing, found that in each division the farmer borrowers or applicants gave as their Number 1 dissatisfaction, appraising. Whether it was a federal farm loan or a loan on chattels it appears that the borrowers felt that it was not interest rates, not foreclosures, not principal payments but appraising that constitutes the chief cause for dissatisfaction. It is quite probable that this feeling is not limited to those who have dealt exclusively with government representatives. Those familiar with farm loan procedure as carried on in this country for the last twenty-five to fifty years know that the appraisal aspect of the process can be called little but guessing.

The present situation as it relates to loan delinquencies and foreclosures can in all to great a measure be traced to faulty and inadequate appraisal procedure.

The National Joint Committee on Rural Credits appointed a sub-committee on Appraisal Procedure. They held their first meeting on November 6, 7, and 8, 1933 at St. Louis, Missouri. The meeting was called by the writer as chairman of the Central Committee. By request of the Appraisal Committee he presided at the three day session. At the conclusion of the meeting, Hudson Burr representing the American Society of Farm Managers was elected permanent chairman. All organizations participating in the work of the National Joint Committee were represented except the Agricultural Editors and the National Grange.

The work of the committee was divided into three sub-divisions, i.e. Definitions, Ethics and Procedure. Following two days of deliberation these committees reported back to the whole committee their findings on these three subjects. These reports are now in the hands of the general chairman, Mr. Burr. He has tentatively set a date in early January for a second meeting of the committee at which time the reports will be revamped and/or approved and made ready for the action of the Central Committee.

Those of us who have had a part in this work realize that at last we will have in this country the beginning of a codification of rural appraising. We will have definitions to which we can turn for a common use of terms. We will, or at least can, speak the same language. We will be able to eliminate many carelessly used terms and have a source of reference for disputed points.

No undertaking as personal as appraising can long endure with the continuing respect of the public without a generally recognized code of ethics. The beginning for such a code has been laid. It creates a yard stick

¹ Editor's Note: This brief report was presented at the Annual Meeting of the American Farm Economic Association by Mr. Doane. It is expected that a more detailed statement will be published in a later issue of the Journal.

of judgment by which ethical and unethical practices may be measured. It should exert a material influence on independent appraisers and also play a part in establishing proper relationships between employer and employed appraiser. It gives clients using appraisers a basis for judgment of men and their reports.

The work of the sub-committee on procedure is, of course, of great importance. It will be the basis for appraisal procedure that we hope some day may have a scientific basis and a common ground of sound practice. Dr. C. L. Stewart of the University of Illinois spent the summer of 1933 in Europe studying appraisal procedure. One of the most significant aspects of his report to our committee was that which related to the appraisal work in Denmark. In that country every parcel of land has one basic appraisal. This value is publicly known and is the basis for taxing, buying, selling, loaning or any other transaction related to the value of the land. The basis of the appraisal is not a monetary unit but an index of production called "Hardt Korn" meaning units of crop or grain production. It is significant that this basic production measurement has stood the test of more than a century.

The Appraisal Committee was greatly impressed with the possibilities of creating such a standard for the United States. Steps have been taken to work out an index for one of our middle west grain producing states. Its use will be tried and if found practical, will no doubt be expanded to other regions. It may be found advisable to make regional indices for each major crop area, but this question and many others related to it will wait a test in one limited field.

Another important outgrowth of the Appraisal Committee's work will in all probability be a wider use of soil data now rather abundantly available at most of our agricultural colleges. Soil surveys, experimental plats and other similar types of work have been carried on for years. The facts derived from these studies have not been as widely used in appraising as their true value would warrant. We are hopeful that soil classification and ranking as now done in a few states may be continued and made a part of every appraisal report.

It is our feeling that one of the most important phases of the work of the National Joint Committee on Rural Credits is that which relates to the creation and functioning of the committee on Rural Appraising. The publication of its findings will no doubt be the beginning step in the codification of rural or farm appraising in the United States.

HISTORY OF FARM DEBT ADJUSTMENT ACTIVITIES¹

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At the outset let me say that the contents of this paper deal entirely with modern history; with developments in the United States during 1932 and 1933.

It is not necessary for me to spend time in a recital of the severity of the present farm debt problem or of the situation which has brought it about. If Ohio be taken as a representative state, land which was selling at 160 dollars per acre in 1920 had reached 94 dollars per acre in 1929 and 59 dollars per acre, or 37 per cent of its 1920 value, in the spring of 1933. Thus a mortgage debt of 80 dollars per acre would have amounted to one half the value of the farm in 1920 and 136 per cent of the value in the spring of 1933 and probably an even higher per cent of the price the property would bring at a forced sale. Not only was the value of the security reduced but, with the drastic decline in the prices of farm products and the smaller decrease in the items of current costs, the farmer's ability to pay taxes and interest, to say nothing of reducing the mortgage, was seriously curtailed. The result was a high degree of delinquency and subsequent foreclosure. The foreclosure rate on farm mortgages in Ohio was 22 times as great in 1932 as during the years, 1910-1914. Other contributing factors were the inaccessibility of funds deposited in financial institutions which might in many cases have been used to carry the mortgage; in many instances the necessity of making more liquid if not liquidating the institution which held the mortgage; and the shortage of new mortgage credit.

By 1932 it was apparent that if all the pending foreclosures were carried through, the land market would be demoralized. With few buyers every sale depreciated still further the value of all farm land and thus for every farm sold, at least three more were brought to the verge of foreclosure. The situation was one over which the individual farmer had little or no control. Work as long and as hard as he might, he was faced by the continual shrinking in the value of his security and the lessening of his ability to pay. It is not surprising that morale began to be shattered and that a spirit of unrest developed.

¹ This paper was read at the Twenty-fourth Annual Meeting of the American Farm Economic Association, Philadelphia, December 27, 1933.

It was in a period such as this that the activities of which this paper treats began to develop. In October of 1932 the Iowa Farm Bureau invited about 25 representatives of the various loaning agencies in and out of the state to a luncheon conference and proposed the setting up of a state committee, which in turn would set up county committees to deal with the farm foreclosure situation. As a result of this meeting the Iowa Farm Bureau proceeded to set up a state committee and the state committee in turn to set up about 100 county committees which were called Agricultural Credit Councils.

In the spring of 1932 Governor White of Ohio appointed a committee of five to investigate and report on the mortgage situation and methods for its alleviation. This group recommended that the Governor appoint a committee whose duties would be to assist and advise with those who were in mortgage difficulty. This recommendation was based in part on the successful operation of such committees in the City of Philadelphia where committees of this nature had been in operation for about a year. In accordance with the above recommendation Governor White, in November 1932, appointed a committee of five who selected for themselves the name "Farm and Home Protective Committee" as one which described the nature of their work. Committees were appointed in 65 of the 88 counties of the state. The Ohio committee differed from the Iowa committee in several respects. First, it dealt with both urban and rural homes; second, the Ohio state committee was appointed by the Governor, while the Iowa committee was appointed by the Farm Bureau. In Ohio the county committees received their appointment from the Governor, while in Iowa the members of the county committees received their appointments from the state committee.

In February 1933, Governor Bryan of Nebraska appointed a Debt Conciliation Committee of seven members. The state committee then appointed county Debt Conciliation Committees in 90 of the 93 counties of the state.

About April 1, 1933, Governor Horner of Illinois appointed a state Agricultural Conciliatory committee, which in turn immediately began the selection of county committees the members of which were appointed by the Governor.

The foregoing is by no means the result of a complete survey of the states making an organized attack on the problem through the appointment of such committees. Early in 1933 the Wisconsin Legislature passed an act providing for the appointment of County Mediation Committees. Information as to how many counties

organized such committees is not available. Dr. Hibbard, however, reports on the activities of 39 Wisconsin counties that appointed mediation boards during 1933, over one half of which were appointed in March. Other states report committees in several counties. It does, however, I believe, give an account of how the various committees came into existence.

As to the work of these committees. Iowa reports several counties which gave consideration to over one hundred cases each. Over 6000 cases came before the Ohio committees and 1,265 cases before the 39 Wisconsin committees which Professor Hibbard reports on. Nebraska reports relatively few cases, while the Illinois committees were organized late in the season. In probably 75 per cent of the cases coming before them the committees have been of some assistance.

In Ohio a typical county committee comprised a banker, an attorney, a real estate man, a retired farmer, and two active farmers. In other states where the committees devoted themselves to farm cases only, a heavier weighting was given to farmers. The success of the plan depended largely on the personnel of the committee. Too much care could not be given to their selection. The members must be of high standing and ability and willing to give of their time. In all cases the members served without pay.

At this point I can probably discuss the working of the committees to better advantage if I take Ohio, the state with which I am most familiar, as an example. Soon after their appointment the members of the county committees met and organized by selecting a chairman and secretary, also a time and place of meeting. The announcement of this in local papers usually brought the business. From December to April the typical committee met weekly. Some met more and some less frequently. The Franklin County committee, for instance, was enlarged to sixteen members. The Chamber of Commerce gave them rooms, the Women's Clubs furnished them clerical help, and two or more members of the committee were on hand every afternoon for consultation. More often than not the meetings were held in the county agent's office. Blanks prepared by the state committee were used upon which to take down a statement of the case. After hearing the debtor, the creditor or creditors were gotten in touch with and finally the two were brought together.

As to the disposal of the cases there was a wide variation. Each case was a problem in itself. Probably the most frequent disposition was the postponement of foreclosure. In many instances the mortgage was extended. In some instances the delinquent interest was

cancelled; in others the interest rate was reduced. In some cases the amount of the mortgage was reduced, especially where the individual was able to find a new source of credit. In many instances where the case seemed hopeless the debtor was encouraged to turn his property over to the mortgage holder who in return agreed to forego a deficiency judgment. In over one half the Ohio counties having committees the Common Pleas Judge follows the practice of referring all applications for foreclosure to the committee for consideration and recommendation. In general the larger financial institutions cooperated well, many of the more difficult cases being those where the mortgage was held by an individual or by a joint stock land bank.

None of the committees in any state, so far as I have been able to find, were clothed with any legal authority. Their function was purely advisory and yet in a way they were possessed of much authority, namely, that of public opinion. Their influence was much greater than that of the particular cases which they considered. The mere existence of such committees did much to temper the attitude of the unscrupulous mortgage holders. Probably as great a service as any was that of upholding the morale. They made it apparent to the debt harassed family that not all the world was against them. In Ohio at least they gave sane council in the early months of 1933 when disregard for the law was entering into the situation.

In addition to the conciliatory committees already described other means of meeting the situation were tried. In some counties and cities the court requested that the county bar association appoint committees which would consider all applications for foreclosure and make recommendations to the court as to their disposal. Such committees stopped many unnecessary foreclosures. The amendment to the bankruptcy act passed March 4 provided for the appointment of Conciliation Commissioners by the federal courts to handle farm foreclosure cases. I am informed that about 50 such commissioners have been appointed in the United States to date. Some of these have accomplished results and others have not. Professor Nash writes me that in Berrien County, Michigan, the Commissioner has handled about 123 cases involving over \$700,000 up to November 1. In 80 per cent of the cases an agreement had been worked out but in only a very few, about 20, had there been a petition prepared and sent to the court. In other words the Commissioner has acted as a conciliator and has brought the parties together without the necessity of filing a petition. Farmers, however, have a natural abhorrence of the bankruptcy court. The

commissioner's pay is small if the cases are not brought to court, and at least 15 farmers must sign the petition before a commissioner can be appointed. To be of any great assistance they must be men who are sympathetic to the situation of the mortgaged farmer.

It will be noted that where the court requests the appointment of a committee from the county bar association, the cases do not come before the committee until foreclosure proceedings are asked for. The work of such committees usually revolves around deciding and recommending to the court as to the justice or injustice of the requested foreclosure proceedings. In the case of the conciliation commissioner under the bankruptcy act, the conciliator's pay is received when the case is docket. Many cases could better be settled before this point is reached. It is doubtful therefore if they will receive any great per cent of the cases which need attention.

With conciliation committees, on the other hand, such as I have discussed, any type of case may come before the committee, the only desire of the committee is to dispose of the case as quickly and equitably as possible without publicity. Their aim is to prevent the case from reaching the foreclosure point and to adjust the debt to a point where the farm owner will have a reasonable chance to pay out.

On the whole it would appear that these conciliation committees performed a very helpful and useful function. Many foreclosure actions were at least postponed, some debts were reduced and much good advice was given. Possibly a good combination would be a volunteer committee and a conciliation commissioner. The volunteer committee to dispose of as many cases as possible, the others to be turned over to the conciliation commissioner.

On last October 4 Governor Morgenthau of the Farm Credit Administration called upon the governors of all states to appoint farm debt conciliation committees similar to those already existing in a few states. Dr. Case informs me that 35 States have announced the personnel of such state committees and that from 26 states progress is reported in the selection of county committees. With the passage of foreclosure restriction laws in many states last spring and the pending and later the becoming available of the Home Owners' Loan Corporation and the Farm Credit Administration loans, there was a decided decrease in the foreclosure rate. Many of the conciliation committees appointed last winter had become less active. But now there appears to be a new field for their usefulness in cooperating with the Farm Credit Administration.

RESEARCH RELATING TO POLICIES FOR SUBMARGINAL AREAS¹

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One does not have to extend his memory many years into the past to reach the time when research in land utilization was viewed as highly academic and of secondary importance compared with such reputedly practical subjects as cost of production, market area studies, consumer preference, and other fields which in succession appealed to the pragmatic instincts of rural economists. Recently land utilization has passed from bare respectability to popularity, and popularity is bringing us to the point of definite action. We are, therefore, confronted both with the opportunities and the perils of a suddenly achieved popularity.

The topic assigned to Mr. Clayton and myself is not the whole broad field of land use research, but merely research relating to policies for submarginal areas. This may be considered to include (1) research for the determination or definition of policies and for needful orientation as to the character, extent, and location of the problems of poor farm land; (2) research that will facilitate the application of policies. We have agreed to divide our allotted twenty-five minutes along these lines. I shall endeavor to bring the discussion up to the point of application to specific areas in so far as I can do this without anticipating too fully the topic to be discussed later by Assistant Secretary Tugwell.²

At the outset one feels the need of gauging the extent and location of the problem of poor land. A first approximation in that direction, of a highly generalized character, is the now well known map prepared by Dr. Carleton Barnes, of the Division of Land Economics. It is desirable to obtain a less generalized conception of the problem. To this end the now defunct National Committee on Land Utilization proposed a national project for the classification of land according to its physical adaptability to various uses. The project was undertaken by the Federal Bureau of Chemistry and Soils in collaboration with various experiment stations. This, of course, is not an entirely new kind of undertaking. Something similar, for instance, has been done by the U. S. Geological Survey over a considerable part of the Great Plains. However, it is the first time it has been undertaken on a nation-wide scale, and the methods employed are somewhat unique.

¹ This paper was read at the Twenty-fourth Annual Meeting of the American Farm Economic Association, Philadelphia, December 27, 1933.

² See JOURNAL OF FARM ECONOMICS, January 1934, pp. 55-69.

Each soil type, in counties for which soil surveys are available, is classified into ten grades. These range from one (the best) to ten (the poorest) considered from the standpoint of the adaptability of the soil, in its natural condition without amelioration or serious deterioration, to the kinds of crops predominantly grown in the area. Each main crop is given a rating according to its relative productivity as compared with that on the land in the United States physically best adapted for that crop. The general rating for a particular land type is obtained by combining the ratings for individual crops, according to relative acreage. Eventually the areas in each productivity class will be planimetered and their approximate area determined.

There was need, however, for an immediate statistical picture of the land in the different grades. To this end our geographers were asked to classify each of the 30,000 townships or corresponding minor civil divisions into one of the ten grades according to the physical adaptability of that part of the area chiefly employed for cultivation. This was carried out not only for civil divisions where soil surveys are available but also, on the basis of judgment ratings, for other areas. Data by minor civil divisions available in the Census for 1930 were then tabulated for the poorer classes of land. The procedure is admittedly rough but undoubtedly provides a means of arriving at a more definite conception of the extent and geographic location of poor arable land.

A brief summary of some of the results of this tabulation for the United States as a whole may be of interest. Grades 6 to 10 inclusive are all rated as poor, while grade 5 consists of land of fair quality, but subject to severe erosion when employed for the crops normally grown on it. Grades 6 to 10 inclusive contain about 41.6 per cent of the total land in farms and 31.5 per cent of the total crop land. The farms in these grades were valued in 1930 at $7\frac{1}{2}$ billion dollars. Grades 7 to 10 inclusive, characterized by conditions unquestionably poor, contain 21.8 per cent of the total land in farms, about 11 per cent of the total area of harvested crops, and about 12 per cent of the number of farms; which were valued in 1930 at $3\frac{1}{2}$ billion dollars.

Of course, poverty of soil may be offset by special advantages in location or adaptability to types of intensive farming which justify extensive use of fertilizers or other ameliorations. Moreover, in many areas disadvantages of residence on poor soils are compensated by opportunities for part-time employment. The statistics given, therefore, measure merely the maximum limits of the problem of poor farm land.

Viewed from the standpoint of its relation to the problem of over-production, the poorer grades of land naturally contribute proportionately a smaller amount to the total product than a corresponding acreage of good land. For one thing, it has been noted that the unquestionably poor land in grades 7 to 10 inclusive contained only a little more than half as high a percentage of the land in harvested crops as the average of all land. It would be fair to assume, moreover, that the average productivity per acre would be lower on the poorer grades. By using the value of product data in the type of farming census as a basis, it has become possible to estimate its relative productivity. For the United States as a whole we find the commercial production on grades 7 to 10 to be a little less than 70 per cent of the average productivity of all harvested crop land.

It is sometimes said that the poor lands are characterized in the main by little commercial production. This is true, of course, of mountain regions, partly because of the physical limitations on the amount of cultivable area in the farm. On the whole, however, our estimates show a surprisingly extensive practice of commercial production on poor land, particularly in the cotton and wheat belts. In 1929, the aggregate commercial product of grades 6 to 10 inclusive was over two billion dollars, while the commercial product of grades 7 to 10 was over one and a third billions.

Research to estimate present and prospective acreage requirements is important for the orientation of general production policy as well as for policies relating to poor land, reclamation, homestead legislation, and land settlement. I need not mention the well known work of Dr. O. E. Baker in trying to determine the relation to acreage requirements of such factors as population trends and changes in production technique, consumption, and foreign trade. Somewhat analogous work has been done by the Forest Service in attempting to forecast requirements for forest products.

You will note that I have spoken of acreage requirements as determined by the acreage needed to produce what is consumed at home or sold abroad, as distinguished from effective demand. Both are influenced by variations in prosperity, but effective demand in much greater degree, since it is a function not only of how much people will buy under a given set of conditions but also of the price which they will pay as limited by available purchasing power. We have estimated that the average acreage requirement for harvested crops in 1930-32, including requirements for maintenance of workstock, was only about 15 million acres less than in the period of general prosperity, 1925-29; and most of this was due to recessions in exports. While the excess in acreage over normal re-

quirements mentioned above exerts a considerable influence toward depressing the prices of farm products, the tremendous recession of purchasing power available to consumers has been an even more potent influence.

The excess of acreage measured in terms of the amount of reduction necessary to absorb accumulated carryovers quickly and to restore a prewar price parity is therefore much greater than the excess above normal requirements—possibly between 50,000,000 and 60,000,000 acres of harvested crops.

We are, therefore, compelled to face the question whether acreage reduction by outright purchase, as distinguished from temporary subsidy, leasing, or the acquisition of easements, should be the method employed to bring production more nearly into line with demand. Temporary subsidies, as now employed, are admittedly disturbing to established farm organization and practice, and therefore unduly costly. In the annual report of the Secretary of Agriculture recently published, it is estimated that for 14 hard winter wheat counties of Kansas the cost of reducing wheat acreage in a single year is from 17 to 36 per cent of what it would cost to buy the land outright and six times as much as owners leasing for the liberal rent of one-third of the gross product would get from their share of wheat priced at 50 cents on the farm.

On the other hand, in considering retirement by purchase one is confronted by the probability that improvement in demand may remove a large proportion of the pressure on farm prices. By 1940, the greater part of the physical excess of 15 million acres of average productivity, or 20,000,000 acres in terms of poor land, will be absorbed through population increase, unless unforeseen changes occur in per capita consumption, exports, or average productivity per acre. Moreover, the problem of disposition of families who now reside on poor land to be acquired—about 300,000 for an area of 20,000,000 acres of harvested crops—is especially difficult in a time of serious unemployment. It is particularly serious if the adjustment must be made quickly.

These considerations seem to point to the conclusion that a policy of gradual permanent retirement of the lean acres should be aimed primarily at such objectives as elimination of rural slums, areas of impossibly low standards of living, and nuisance areas, conservation of soil resources, and a better grouping of rural population in the interest of more efficient and economical local government. For some years at least we shall be interested also in whatever reduction may be effected in net productive area, and because of this immediate interest the policy should be pushed as

vigorously as possible, and particularly in the areas of poor land employed largely in commercial production.

Such an orientation of the program, however, is different from what it would be if the major objective were to purchase enough poor land in a short time to restore a prewar price parity, with the resulting displacement of nearly a million farm families. Moreover, the requisite investigational work would lay a large emphasis on land planning as well as on cost of acquisition. The weight of local interest and dependence on state and local action for the realization of objectives would also necessitate a close working relationship between the Federal Government and the states.

The emphasis on the aim of improving the general pattern of life in rural areas implies investigational work to determine where and how the pattern may be improved. Here again we have a field where extensive work of a preliminary character is important for the better orientation of later more intensive work. One of the most important approaches is by the aeroplane photograph. If made with proper ground controls and suitable altitude, type of lense, and other conditions, this method provides an extremely valuable picture of place relationships, the major uses of land and community buildings, dwellings, gulley erosion, roads, streams, and topography. We are now having such maps made for four counties in Georgia as a basis for land planning, and consideration is being given to the extension of such work over larger areas.

Lacking an aerial photograph, data of the character just named may be obtained by an extensive type of field work based partly on obtaining records at county seats and partly on inquiry. A few states are undertaking projects of this character with Civil Works Administration funds.

Such data will permit the selection of areas where action along certain lines may be possible as well as the areas where further investigation may be requisite.

Another type of research for purposes of investigation consists of intensive qualitative local surveys for the purpose of analyzing and appraising the various problems associated with poor farm land. I refer to the studies in local areas made by the Division of Land Economics in cooperation with various states, the earlier Cornell studies in Tomkins County, the studies of Wehrwein and others in northern Wisconsin, recent studies in southern Indiana, El Dorado County, California, etc. Although in the main local land use research is passing out of this diagnostic stage, there will still remain need for such studies here and there.

This brief sketch of lines of research for the definition of policies

and preliminary orientation brings me to the segment of the problem to be covered by the next paper. I may be pardoned, however, if I appear to transcend the scope of my paper by stating the general view of the Division of Land Economics with reference to research needed to pave the way for action in local areas. It may be categorically stated as follows:

1. It must start with a clear conception of possible lines of action and policies to be applied, and should consist largely in obtaining necessary facts to permit the intelligent application of such policies to the varying conditions in the area.
2. Methods of investigation cannot be readily mechanized and routinized. They must remain flexible to meet the varying conditions of different areas.
3. The idea, frequently expressed, that the task is primarily one of economic land classification for the purpose of drawing an imaginary line between submarginal and supermarginal farm land is far too simple. The concept of an economic margin, while useful, assumes a highly commercial type of production and leaves out of account paramount governmental and social considerations. When these are properly included, the program of investigation becomes land planning rather than merely land classification.
4. Since future events and conditions largely enter into the problem, conclusions must rest in large measure on judgment and common sense. Therefore, the data required will be those that will permit an intelligent judgment on the part of the investigator and one that will sufficiently appeal to the common sense of those who must assume responsibility for action. Present uses and the conditions that explain them will be the starting point. Various indicia such as poor quality of land, sparseness of population, tax delinquency, low incomes, etc., may suggest changes in use and ownership. Further investigation will be aimed at demonstrating the applicability of these changes.

SOME TYPES OF ECONOMIC RESEARCH IN RELATION TO LAND-USE PLANNING¹

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The general characteristics of many areas which are designated as submarginal for agricultural use have been frequently studied and described. These areas usually are characterized by the depletion of the natural and economic resources on which industries which provided employment for the local population formerly depended. The results of this depletion of resources are found in the decline of sources of employment, disappearance of markets, breakdown of social groups and of local governmental organization. Certain economic consequences of these conditions have been brought out repeatedly in studies that show high per capita school costs, heavy rates of taxation for the maintenance of roads, low farm incomes, a general increase in the burden of local taxation, extensive tax delinquency, and declining revenues of local governments. The process of decline, once the underlying basis of economic life is removed, tends to become progressive.

Many of the problems presented by such "submarginal" agricultural areas have been the subject of economic investigation for a long period. The essential question which confronts us, therefore, is whether changes in the process of economic adjustment have taken place which demand a redefinition of objectives and a reorientation of economic research relating to land-use planning. It must be recognized that the international epidemic of tariff barriers, import quotas, and similar devices designed to restrict or control the free flow of economic goods and services has polluted the stream of economic life at its source and has materially altered the approach to our economic problems. The recognition of this important fact need not blind us to the permanence and significance of the broad forces which operate to give direction, form, and character to the economic organization of communities, regions, and nations. Nevertheless, it appears clear that the economist cannot wait on the completion of broad general measures of sanitation for the purification of the streams of world economic life before proceeding to a treatment of the ills that affect local and regional groups. The rural doctor must treat the individual patient, while broader measures are undertaken to eradicate the sources of infection. It is futile to depend upon the normal operation of eco-

¹ This paper was read at the Twenty-fourth Annual Meeting of the American Farm Economic Association, Philadelphia, December 27, 1933.

conomic forces to correct the economic ills of a world that is normally abnormal. The remedy appears to have the effect of perpetuating the infection and of increasing the fever of the patient.

By reason of this change in the whole setting of our economic life, and regardless of the temporary or permanent character of the changes in the process of economic adjustment thereby imposed, it seems reasonable to proceed on the assumption that a new orientation involving some shift in the objectives, or at least in the procedure, of economic research is called for.

Early studies in the field of land utilization took as their point of departure and the foundation of their procedure the principles underlying the localization of industry and the distribution of population as embodied in the doctrine of comparative advantage and its corollary, the principle of first choice. We may, therefore, set down as a "type" of land-use planning research in submarginal areas, studies designed primarily to show, on the one hand, for what the area was submarginal, and for what, on the other hand, the area was supermarginal. The presumption underlying the procedure in these early studies was that individual farmers occupying tracts of land which, by reason of topography, poor soil, isolation, etc., failed to yield an income comparable with the income which was obtainable on land in other locations with a comparable investment of land, labor, and capital, were, ipso facto, submarginal. The inference implicit in this finding was that farmers and their families, occupying such farms, would remove from the submarginal location to locations which, in accordance with facts interpreted in the light of the general principle, were supermarginal. In all of this is to be seen an anachronistic adherence to the old-fashioned principle of free competition, through which automatic adjustments to changed general conditions are brought about by changes initiated and consummated by individuals in pursuit of private, pecuniary advantage. If one raised the question as to why the individual had not already made an adjustment beneficial to himself in response to the play of economic forces, the pat answer was that the individual was unaware of the opportunities that the general economic organization provided for him and that, therefore, economic forces failed temporarily to operate because of the individual's lack of information. A further and familiar qualification of this doctrine also comes to mind, namely, the multitudinous restraints, embraced under the blanket term "economic lag," which tend to make the individual slow to move.

The justification of this type of research as an end-product of planning must be found in the validity of its premise, namely, that

if farmers who occupy submarginal farms can only be supplied with the figures to show that their farms really are submarginal, they will make responses appropriate to this revelation. The circumstances of our economic life lend scant support to the validity of this premise. Consequently, for purpose of land-use planning, studies designed primarily to show that farms in "submarginal" areas are submarginal may be regarded as abortive.

A second type of research is aimed primarily at showing conditions which characterize an area. Ordinarily, investigations of this type are planned as independent projects in various special fields. Studies in submarginal areas have given a great deal of attention to demonstrating that the per capita cost of schools in such areas, particularly schools serving isolated settlers, is high; that the cost of maintaining roads for the use of families, in sparsely settled townships far exceeds the taxes paid by these families; that tax delinquency is high; that local governmental revenues are declining; that the burden of taxation is increasing; that farm incomes are low; that living conditions are poor, etc.

Now, no one will deny that the determination and presentation of facts of this kind are highly important and useful. It is, however, disconcerting to note a tendency on the part of some research workers or perhaps, more accurately, of persons responsible for the administration of research, to regard this elementary procedure as an end in itself, as representing an end-product of research. If one attempts to trace this attitude to its source, it will be found to spring from the same roots as the idea that the individual will adjust himself to economic conditions, provided he is told what adjustment his individual situation appears to suggest. That is, in simple terms, those who are satisfied to rest planning research on a mere exhibition of what conditions are, proceed to the wholly unwarranted assumption that if these conditions are known something will be done about them. When confronted with the fact that such developments do not follow upon the presentation of conditions in an area, refuge is taken in the comforting dictum that the business of research is to present the facts. The trouble with this dictum is not that it is wrong, but that it is comforting. It permits avoidance of the real question—"What facts?" Somehow, a good deal of current research has failed to give answers to questions which the real problems of land-use planning appear to demand.

A third type of research which has made its appearance since discussions of land-use planning became the vogue concerns itself neither with exploring problems in the light of basic economic principles, nor of presenting a detailed inventory and analysis of

conditions. The present type proceeds immediately from wish to consummation. Little time is wasted in showing conditions as they are and less in exploring the causes of these conditions. These investigators appear to regard themselves as commissioned to spy out the promised land. They paint glowing pictures of a planned economy; they provide photographs of the completed structures. They avoid the laborious tasks of developing plans and specifications, and of figuring the costs of materials. It is not intended to discount the benefits of this type of investigation. Planning must depend upon the enlistment of the interest, not to say the enthusiasm, of large numbers of people. No doubt reports on the production of milk and honey may help to compensate for some of the difficulties that lie along the way to the promised land.

There is a fourth type of research procedure which, perhaps, more closely approximates the needs of planning than any of those previously described. The procedure may be illustrated by reference to problems of local government and problems of shifts in the use and ownership of land. These problems are so interrelated as to require coordinate study, in order that appropriate types of adjustment may be developed. To make the illustration specific, there are various possible ways of reducing the expenses of local government; for example, (a) by concentrating agricultural settlements around established and developed agricultural centers, thus permitting (b) elimination of isolated schools and a smaller total and per capita cost of education, and (c) elimination of costs of construction and maintenance of roads for isolated settlers; (d) by eliminating township government in appropriate circumstances, etc.

Similarly, there are various ways of increasing the revenue of local government: (a) Concentrating agriculture on the better land should provide a broader and more dependable basis of taxation; (b) removal of the flagrant inequalities in tax assessment should have a similar effect; (c) so also would the application of sound principles of forest taxation, etc.

The nature of these or similar possibilities are generally known and can be enumerated by any person reasonably familiar with conditions in a particular area. Propositions of the kind enumerated do not represent the type of recommendations that are the essential end-products of a land-use planning study. To illustrate, it is not the objective in gathering data on schools (for purposes of land-use planning) to demonstrate or to exhibit the fact that high per capita costs of instruction and maintenance are associated with isolated schools that serve only one or two settlers. Many facts and

relationships of this type are now well established and may be taken for granted. For land-use planning purposes, the essential facts needed relate to the location of schools with respect to population, roads, agricultural development, etc., and the object in obtaining these facts is to fit a plan with respect to the location and support of schools into a plan for the localization of agriculture and a scheme of taxation. The principal figures on school costs needed are those that relate to probable costs under the distribution of population, agriculture, schools, etc. contemplated in the general plan. Facts or estimates in relation to a potential situation and a clear definition of the projected set-up are the foundations of planning.

The same observations apply generally to all types of economic data. What is needed are data that are applicable to the projected organization. Data that are not oriented, in process of obtaining them, to the projected organization or plan, usually can be utilized subsequently merely to demonstrate the obvious, namely, that a problem exists without contributing much to the question as to what should be done about it. Land-use planning studies emerge because a combination of problems are known to exist and the central objective of the study is to answer the question—What are the appropriate means, and what would be the consequences of doing specific things with respect to these problems? Questions as to the desirability of encouraging private forestry and the considerations, public and private, involved in extending public encouragement of private forestry, by changes in methods of taxing forest land, by providing planting stock, by extending fire protection, by establishing demonstration forests, are examples of problems that require, if not a solution, at least a clear formulation and appropriate investigations.

Let us suppose that the specific problem involved is the transfer of an isolated group of families from their present location to another location adjacent to an agricultural community in the same county.

What are the questions to be answered for the benefit of any agency that may be called upon to administer such a program? Those are the types of questions that planning research involves. The ramifications of this one aspect of rural planning are astonishing. At present we not only have very meager information in regard to the questions which arise but the questions themselves have scarcely been formulated in the bulk of current research procedure.

What kind of land is available for such a resettlement program? How many homes could be established on this land? What are the

costs involved in the process of resettlement? What would be the probable income and level of living of families established in the new location? Under what plan can the land best be acquired? What use can be made of the land vacated? What would be the effect on the local tax burden and on local, state and federal revenues and expenditures of the proposed relocation? What collateral measures, economic, social, legislative, are involved in the proposed adjustment? For example, is zoning legislation needed and if so, what should be the specific provisions of the law? Is county reorganization or consolidation of governmental functions or the reorganization of local school systems involved?

In short, the questions to be raised and answered relate to the ways and means and the consequences of making specific adjustments to give effect to a general program.

Problems of farming, particularly in relation to other uses of land—for forests, woodlots, industries, resorts—should be investigated and programs should be proposed that are designed to promote economical uses and combinations of uses of the land. In these studies, recognition should be given to the implications of the principle of comparative advantage and the probable future needs for agricultural and forestry products in considering the uses of land. But the problems of most local and regional groups are close at home and little time need be spent in exploring principles that lead to the remote causes of their troubles. The task involved is to apply such home cures as may prove practicable and that promise to be soothing and remedial. There are many problems that cannot be treated locally. But there are many that can be, and those are the problems that are of chief interest in local and regional land-use planning studies.²

² The writer has not touched on the organizational aspects of land-use planning research. Integration of the activities of research agencies, federal, state, and local, appears to the writer to be an essential condition or effective land-use planning research, whether the problems considered are national, regional, or local.

RESEARCH NEEDED AS GUIDANCE TO THE SUBSISTENCE HOMESTEADS PROGRAM¹

CARL C. TAYLOR

DEPARTMENT OF INTERIOR

The topic assigned me is difficult to discuss for the simple reason that no one has yet come forward with a satisfactory definition of what a subsistence homestead is or should be. Presumably, therefore, research is as much needed for guidance into the correct area of subsistence homesteads operation as for guidance to a program once this area is determined. Because of this difficulty I feel compelled to make one basic assumption; namely that whatever variations there may ultimately be in the form or forms of subsistence homesteads they will all consist of plots of ground—either farms or gardens—upon which prospective home owning families reside and attempt to produce the maximum of home consumable commodities, chiefly, vegetables, fruits, berries, poultry and dairy products.

Without going into the processes by means of which the present pragmatic program of the Subsistence Homesteads Division was formulated, let me state briefly the types of projects which are now under way or now receiving serious consideration. They are three in number, as follows:

1. Those which provide small garden homesteads, from one to five acres in size, by means of which part-time or low wage urban unemployed persons may raise their standards of living by producing food supplies. These projects are being located around the periphery of industrial centers or in conjunction with decentralized industries.

2. Those which attempt to wrestle with the problems of stranded industrial populations—mainly coal, zinc and copper miners in areas where the mines will probably never operate again. In these projects also, families are being placed on subsistence gardens and furnished with handicraft or other supplementary employment.

3. Those which have to do with the re-location of farm families who are now on marginal or submarginal lands, on lands purchased for national and state forests, in areas of wind and water erosion, or for other reasons are economically submarginal farmers.

There is a fourth group whose needs are being widely urged, comprising what might be called obsolescent industrial workers,

¹ This paper was read at the Twenty-fourth Annual Meeting of the American Farm Economic Association, Philadelphia, December 27, 1933.

those who because of their age or because of changes in the techniques of industry will never again be absorbed in industrial employment.

In addition to the four groups named, the plight of the fifth group is urged, namely, that large group of destitute unemployed for whom many claim subsistence or maintenance farming is the only hope.

The Subsistence Homesteads Division has thus far contemplated the possibility of attempting to deal with the fourth group but has not thus far seriously contemplated dealing with this fifth group.

It would seem that the first approach to the topic in hand should be to raise troubling questions, answers to which should discover and develop information which will serve to orient the subsistence homesteads program as a whole, help to solve the problems which arise in relation to the various groups of persons being considered as homesteaders, and the problems of initiating and operating subsistence homesteads projects. Following this approach, I have listed sixteen such questions, as follows:

1. What experiences have already been had in this and other countries in the field of part-time farming, self-sufficient farming, small holdings, community gardens, farm colonization, and similar planned projects?

2. When persons or families have moved off of farms or out of urban centers into projects which are, in whole or in part subsistence homesteads, why have they done so, what has been their economic success, what has happened to their standards of living, what has happened to their psychologies, and what are their economic and social outlooks?

3. When families have gone or been placed in such projects what have proved to be the advantages and disadvantages of planned community or group settlement, in terms of public and social facilities, guidance in agricultural and economic enterprises, and standards of living?

4. What types of person and family are the best prospects for subsistence homesteading, as measured in terms of their alternative opportunities, adaptability, and stability? Are they made up of the older or younger age groups? Are they those with previous farm experience? Are they mechanics or white collared workers? Those whose children have left home, whose children are young, or who have no children? Are they part-time employed, full-time employed, or unemployed?

5. Have those who have gone onto subsistence homesteads moved onto supermarginal or submarginal lands, into communities

with or without social advantages, and what have been the results under different conditions?

6. What do population trends, both cyclical and episodic, indicate concerning the temporary or long time drift from cities to farms, from cities to suburbs, from cities and farms into villages; and what segments of population are involved in these trends?

7. What are the trends in industry and agriculture which indicate where future natural economic advantages are to be: i.e., where, under normal conditions, should industrial developments take place, where agricultural developments, and where a combination of the two?

8. If, for a considerable period of time, our national economy tends toward a predominately domestic economy, what may be the location or re-location of our economic enterprises and the consequent shifts in population?

9. What is happening and may be expected to happen in the so-called decentralization of industry; how may codes and similar public and social controls alter present trends; and how may new factors in public utility development, especially in light and power—alter present trends?

10. What are the facts about technological unemployment and other factors which will or will not tend to necessitate less industrial employment and shorter working hours than at present or in the past?

The ten questions thus far raised all have to do with past experience and long time trends. There is another type of question which has to do with the practical problems of initiating and operating subsistence homesteads projects. With continuing numbers let me state some of these questions:

11. What personal attitudes, emotions, and habits prepare persons for successful homesteading?

12. What retraining of homesteaders is necessary, desirable, or possible to fit them for successful homesteading?

13. What new zests are likely to be created and what old zests sacrificed under subsistence homesteading?

14. What can farm management and other economic analyses furnish as guidance to size of homestead allotments and the types and methods of agriculture to be followed?

15. Are there feasible economic possibilities—in terms of production costs and market outlets—for the development of a considerable handicraft industry by homesteaders?

A final question which sets a new type of research problem should be stated viz:

16. What contemporary analyses can be made of the experiences

in and results of subsistent homesteading, for example: what could we learn by statistical studies, case studies, diaries, and periodic psychological studies of homesteaders as they live and work year by year on their homesteads? What happens in the rise and fall of family standards of living? What new types and combinations of economic enterprise develop; and what happens to the development of institutions in a community which is, from the beginning, more or less under social control?

The above by no means raises all the problems involved in the subsistence homesteads program. Many of these problems are not subjects for research. They are problems of administration, problems of diplomacy, problems of coordinating the subsistence homesteads program with other segments of national adjustment, and many of them problems which arise in relation to state and locality conditions. I am sure I have not asked all the questions necessary to set all possible research for guidance to the subsistence homesteads program. What I have tried to do is to ask questions which seem to me to suggest four general types of research, all of which would contribute materially to knowledge essential to a carefully guided subsistence homesteads program. These four types of suggestions are:

1. Suggestions for studying present and past situations and projects which are similar to those with which the Division of Subsistence Homesteads is now dealing or which may serve to delimit the field or area of subsistence homesteads operation.

2. Suggestion for the study of specific practical problems incident to the initiation and operation of subsistence homesteads projects.

3. Suggestions for studies of fundamental economic and social trends.

4. Suggestions for contemporary analyses during the life of subsistence homesteads projects.

Differently considered, I have suggested first that we can probably learn much from both sporadic and planned experiences in the field of subsistence homesteading, second that we need information on the future opportunities for great segments of our national population to make a living: i.e. knowledge of natural resources, technological development, and natural economic advantages; and third that we need a better knowledge of the people with whom we will and should deal.

By raising these questions and making these suggestions I do not mean to infer that no research is being done in these fields or that no information is available to help answer these questions.

The 1930 census reports approximately 500,000 self sufficient farms;² approximately 360,000 farms less than ten acres in size;³ and approximately 340,000 part-time farmers⁴ in the United States. Some definite studies have been made of these part-time farmers and part-time farming, especially in Massachusetts, Connecticut, New York, Vermont and New Jersey.⁵

In addition to these specific field studies, Black and Rozman have prepared a research project for the Social Science Research Council and a nation wide study of part-time farming is just getting started under the auspices of the Division of Subsistence Homesteads and the Civil Works Administration.

The reports of the President's Research Committee on Social Trends contains considerable information in keeping with the suggestions made here.⁶

There is much information available from farm management data, and even techniques for psychological studies are available.

There has been a rather elaborate experience in farm colonization throughout the world. Some fairly careful studies of these experiences have been made. The fact that most of these colonization ventures have failed should suggest the need of a most elaborate diagnosis of all available data in relation to them.

Much information is available and much more is being accumulated on land use planning and the location of the chief problem areas of the nation.

The first thing needed is the immediate bringing together of all information already available and the focusing of it on the problems in hand. The second thing needed is the development and adaptation of research techniques, especially those in farm management, rural sociology and psychological testing, for use in discovering practical guidance in initiating and operating subsistence homestead projects. And the third thing needed is carefully planned and diligently executed researches on long time economic and social trends; national, regional and locality comparative advantages; and a comparative study of subsistence homesteads and similar program in other parts of the world.

² A self sufficient farm is one from which the farm family receives fifty per cent or more of its subsistence.

³ No farms under three acres producing less than \$375.00 cash sales per year are included.

⁴ To be classified as a part-time operator the farmer must be gainfully employed in outside occupations as much as one-hundred and fifty days per year and these one-hundred and fifty days do not take into consideration the outside employment of other members of the farm family.

⁵ See Rozman, D., "Part-time farming in Massachusetts," *Massachusetts Experiment Station Bulletin*, 266; Hypes, J. L., "Vocational stability of Connecticut farmers" in *Social Forces* 9: 191-200; Hood, K., "Some Preliminary Results of a study of Part-time Farms in Chemung and Thompson Counties, New York." (Mimeograph June, 1933), also Bulletin 431, "Cornell Agricultural Experiment Station and Farm Economics," Cornell, May, 1933; Cox, H. R., "The Possibilities of Part-time Farming", *Extension Bulletin* 107, "New Jersey State College of Agriculture and also Minor Enterprises for Part-time Farmers", *Extension Bulletin* 108; Lamson, G., "A study of Agricultural populations in selected Vermont towns", Vermont Commission on County Life, Burlington.

⁶ See especially Brunner, E. de S. and Kolb, J. H. *Rural Social Trends* (Mimeograph), Baker, O. E., and McKensie, R. D. in *Recent Social Trends in the United States*.

THE INFORMATIONAL AND ANALYTICAL BASIS FOR REGIONAL PLANNING¹

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We are dealing here with large scale land-use planning, the rationalization of the use of rural areas. The underlying purpose is to better assure the economic, social and esthetic well-being of both our urban and our non-urban population.

Land-use planning, it cannot be over-emphasized, is one segment only of the planning concept and the planning project. The reciprocal influence between land-use planning, industrial planning, water supply planning, etc. etc., must be kept constantly in mind. To illustrate: certain lands distinctly sub-marginal because they are far removed from markets may become highly profitable if and when population moves into the territory by virtue of resort or industrial development, as in recent years has been the case with sections of Southern California and Florida. Or a change in the freight rate structure, or in the supply of water, or in the hazard of floods, or in the availability of fertilizer (any one of which might result from activity in the other segments of planning), may greatly influence land-use planning. X

In considering this phase of the planning movement, we must recognize that the whole enterprise is still in the formative stage in this country. A great deal of thinking has been directed toward the various aspects of the problems. The geographers and the agricultural economists particularly, have built up a rich background, but we must recognize that land-use planning, in itself and as a part of comprehensive social-economic planning, has still to crystallize its survey methods, establish its inter-relationships, both theoretical and administrative, and find its full implementation. This is a transition period between the years of exploratory thinking and the era of effectual planned guidance of land utilization.

During this period of transition we are still surrounded by limitations which to a greater or lesser degree frustrate the flowering of our program. Land-use planning, like the other elements of planning for the public well-being, must find its expression and its authority through government or through other forms of collective action; and "intrusion" into private affairs by government,

¹ This paper was read at the Twenty-fourth Annual Meeting of the American Farm Economic Association, Philadelphia, December 27, 1933.

official or unofficial, is still endured rather than welcomed as a normal part of the fabric of American life, the advances of the past year notwithstanding. We are in process of growing up to realize the usefulness of collective action as an instrument for reaching our desires. The introduction of planning cannot proceed much ahead of the authority granted to government for planning purposes.

Another inhibition up to the present date in the United States, as in most of the western world, derives out of the very real conflict between the individual interest and the public interest, between private and community objectives. Specifically, as an example, the store-keeper whose investment and livelihood are dependent upon a sub-marginal farm land population, is not in a position to cheer for the removal of that population to points outside his reach. And that type of conflict is inevitably met at every turn in every phase of public planning enterprise. Two systems are running afoul of one another and the adjustment is difficult and painful.

This conflict suggests another type of limitation upon our planning proposals. Until we know what our form of social organization is going to be, capitalistic-democracy, one of the forms of socialism or facism, or some other, we cannot shape our course definitively.

Now, we seem to have gone pretty far adrift from the informational and analytical basis for large-scale regional planning of land utilization. However, it is this writer's belief that only by recognizing where we are can we set the compass for any long planning voyage. It is inherent in the very concept of integrated planning that we must know all that can be learned about the land, the people, and their lives before it is possible to satisfy the hypothetical requirements of fully developed planning. We must deal with many phases of economic planning, with many elements of physical planning, and with the intricate planning of social institutions, (education, public welfare, government itself, etc.). And we must adhere to a basic social philosophy.

It becomes clear, then, that during this formative transitional period, we have to take a hand hold where we can find it. We have to understand and grasp the significance of crises such as those of the past four years, which have finally given such a stimulus to planning as a device for solving intricate problems beyond the power of uncorrelated effort to solve. And the available hand-hold varies widely in different situations. The program for gathering information and analyzing it must vary correspondingly.

The geographic unit to be planned will, in its characteristics,

suggest a line of attack. The Tennessee Valley includes much sub-marginal land, requiring rehabilitation, abandonment or the introduction of industry. The rich lands of Iowa, conversely, require mainly the conservation of the soil. The informational and analytical background for undertaking land-use planning is obviously quite different in these two areas.

The type and temper of the agency will influence the form taken by the planning. The unofficial State Planning Committee, which started planning for Illinois, under the auspices of the State Chamber of Commerce, was keenly interested in the commercial aspects of agriculture and industry, but could have little enthusiasm for the price-fixing proposals which now accompany part of the federal program. Likewise, the first New York Commission on Regional Planning and Housing had no such direct authority to effectuate the changes it found desirable as that which is possessed by the Federal Government in treating with lands which should be in forests rather than in farms. The former required educational material preponderantly, the latter now requires specific detailed knowledge of lands eligible for conversion from cropping to other uses. The make-up of the planning agency and the degree of authority it has to work with inevitably influence the survey program.

Perhaps most important is the determination of the outstanding most urgent local problem in the area, the predominant problem to which all others may be more or less directly related. Such a point of reference is sometimes self-evident; again, it may have to be discovered. In either case, once it is recognized, the research program may most effectively be organized around it. In Utah, for example, the focal point is water supply. Everyone there realizes that the heart of the state's development problems is in the storage and conservation of fresh water. Direction and force is given at once to a program centered on this fact. To cite a quite different situation, the Vermont authorities rally their planning project around the scenic and recreational and small industry possibilities, and the data to be made available for state-regional planning is built up accordingly, with a different outline, from different sources, toward different objectives.

We have said that planning can only keep pace with the public interest and the public willingness to go along. On this point there is a sharp contrast between the background in Wisconsin, say, as compared with New Jersey. In Wisconsin, the program may and does include "progressive" items which would be very coldly received in many states. In shaping up a planning study, the Wis-

consin informational and analytical agenda would step out far beyond that of more conservative communities.

Some states and regions are far better equipped with material already available than are others. With certain funds available, and only that amount to be used during a given period, the survey must pick up the threads where they are found and build up from that point. The Tennessee Valley has almost no up-to-date full-scale topographic maps, and one of the first efforts and budget items necessarily went to securing this very expensive basic information. In Iowa, conversely, on the survey for the state conservation plan, one of the outstandingly urgent items was the detailed appraisal of game and wild life possibilities. That was the first and one of the most expensive informational projects undertaken. In Michigan, the same type of wild life survey would not be necessary. And so it goes through the long list of possible survey elements.

Granting that implemented planning rather than academic exploration is now our purpose, and recognizing that implementation can be realized only through a chain of administrative authority, the regional or state planning survey must from the beginning reflect that chain. If relocalization of industry is to be effected by collaboration between a state planning commission and the Federal Subsistence Homesteads Administration, the data on industry and on the industrial workers must be pointed toward that outcome; some types of data must be exhaustively explored, other types may be comparatively irrelevant. If the industrial migration were to be left entirely to the discretion of industrial investors, a different structure would be given to the informational survey.

So, just now, it would be a simple matter to put down the thousand and one items desirable for an hypothetical large scale regional land-use planning survey, but such a statement would be almost meaningless, a purely academic list. For any actual situation the program must be drawn to suit that situation's characteristics. None of us can expect to cover the entire field during the next few months. We are trying various attacks, learning by trial and error, developing our techniques, preparing for the emergence of full-blown land-use planning as an integral part of social-economic planning. A year hence we may be in a position to catalogue the survey for each of the several types of project which crystallize out of this experimental phase of the work.

DISCUSSION BY GEORGE S. WEHRWEIN

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Not having an opportunity to hear or read the papers given at this Round Table with the exception of that of Mr. Crane, I shall confine my discussion to his paper. There are two statements in his paper that are very significant, (1) that planning succeeds best if it is tied up with some outstanding local problem, (2) that planning cannot proceed much ahead of the authority granted to the government for planning purposes. There must be keen public interest and willingness to go along with the plan. In line with the first point, it was the desire to control and, if possible to reduce, abnormal local public expenditures caused by isolated settlement that created the impetus to zone marginal lands in Wisconsin. Without this pressure, it would have taken a long time to stimulate enough public interest in zoning as a mere land classification measure.

In the letter accompanying his paper Mr. Crane said, "I would like to hear you discuss as a part of your statement, the sequence from the state land economic survey to the specific land planning prospects in Wisconsin." Since this has been covered in part in other papers and discussions it will be reviewed briefly here.

Wisconsin does not have a systematic land economic survey on the Michigan plan. Only a few counties have been covered in the same detail but other studies on land use and taxation have been made either by counties or by larger areas. However, the studies which directed public attention to the need for zoning and planning most vividly were the rapid inventories made at the request of county boards. In this way local officials became directly interested in the research which later became the basis for zoning. A local demand was created for the 1929 amendment to the county zoning law permitting counties to zone their land for agriculture, forestry and recreation.

Although zoning is purely a political act being an ordinance by the country board, the steps taken in the zoning procedure so far followed do not begin at the top, but at the bottom, so to speak. That is, a committee of the county board with the aid of the College of Agriculture committee on zoning and its cooperating agencies, the Conservation Department and the Attorney General's Department, draws up a tentative ordinance and zoning map based upon the data from the surveys previously made. This ordinance and map are then presented to the local people at town meetings, first of all to acquaint them with zoning and secondly to get their suggestions on the ordinance and districts as set up in their localities. After this the formal enactment of the ordinance is not very difficult.

Zoning is not planning, to be sure, but those who draw the zones and enact the ordinance are thereby establishing certain land uses. After that other features of a plan tend to fix themselves, the roads, public forests, schools and other public services. In fact, the readjustment of town boundaries and of school districts and changes in the functions of local government became corollaries to zoning. The next step is the relocation of settlers to secure more compact agricultural communities and homogeneous forest and recreational areas.

From piecemeal zoning by counties, the next step is to secure coordinated state wide land uses. Counties and state agencies are cooperating in

this respect and machinery for further coordination has been provided through the Regional Planning Director of the State Highway Commission and an ex-officio State Regional Planning Committee created in 1931.

DISCUSSION BY JOHN M. GAUS

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The discussion of research as a basis for land use planning marks the recognition of problems of adjustment prophesied by F. J. Turner in the early 'nineties when he emphasized the fact that the passing of the old frontier based on free or cheap land would bring new problems calling for new solutions. This topic interests the student of public administration, because the new public domain, accompanied as it is by challenging problems of taxation, the maintenance of public services and the development of a more stable economy, can be wisely developed only through administrative leadership through which existing knowledge concerning land problems can be implemented. Decisions concerning these problems are being taken daily perforce, and we must use existing knowledge available in the various agencies concerned as a basis for cooperative administrative policy affecting various departments such as those of conservation, agriculture, highways, schools and health. Surveys of soil, land cover and other factors can be coordinated and a program developed with the assistance of coordinated budget policy and cooperation of federal and state experts in the various functions involved. The utilization of the results of research already undertaken is as important as the initiation of new research in view of the urgency of the problem.

NOTES

NEW CHINESE AGRICULTURAL STATISTICS

It is common knowledge that China is one of the principal agricultural nations of the world, at least if the measuring-sticks of importance are areas devoted to crops, crop production, or numbers of people engaged in agriculture. But the relative agricultural importance of China has been difficult to appraise even roughly because of the lack of usable Chinese statistics. This gap has been recently filled in part by a series of estimates.¹ These estimates represent the nearest approach to an agricultural census that has yet been feasible in China, and as such they merit the attention of agricultural economists. The purpose of this note is neither to appraise nor to analyze Chang's estimates, but to describe them briefly for readers to whom they may not be readily accessible and to employ certain of them in international comparisons.

Chang's study consists of 10 pages of text, mostly in Chinese; 12 pages of tabulations; and 12 maps. Essential explanatory matter is given in English as well as in Chinese. In large part, the "Introductory Note" in English runs as follows:

The following tables and maps are intended to furnish some basic figures in relation to Chinese agriculture. The figures are not compiled from census returns because no agricultural census has yet been taken in China. They represent the result of estimation, done in a rough but careful and painstaking way . . .

There are 28 provinces [Tibet and Mongolia are not treated as provinces and are not covered by Chang's statistics] and 1937 hsiens in this country. The following estimates refer to only 25 provinces and 1781 hsiens. The provinces not included are Sikang (33 hsiens), Chinhai (14 hsiens), and Kwangsi (93 hsiens). Of the 25 provinces, 10 hsiens in Sinkiang, 4 hsiens in Yunnan and one hsien in either of Heilungkiang and Kweichow are not included for lack of sufficient reports. . .

. . . estimates were made hsien by hsien (a hsien is an administrative unit, approximately equal to the area of an English county) and they were chiefly based on the reports of hsien magistrates, post-masters, and farmers.

Most of these reports were collected under the auspices of the Bureau of Statistics, Legislative Yuan, National Government of China, during 1929-1931. Part of the reports was collected and estimation done in 1931 in the Directorate of Statistics of the National Government.

Since the work has lasted three years, no estimates refer to any specific year. For some hsiens, estimates on farm households and cultivated land were based on data referring to as far as 1912.

The acreage and production of crops refer to the average years, the most prevalent years in the last decade. . .

The first three tabulations give estimates of (a) the total area of the territory covered; (b) cultivated acreage subdivided into irrigated and non-irrigated acreage; (c) crop acreage in total and crop acreage devoted to food crops; (d) total population of the included territory by households and by persons; and (e) the farm population by households and by persons. Data are given for each of the 25 provinces, for six groups of provinces, and for all China so far as it is covered by the estimates.

¹ C. C. Chang, *An Estimate of China's Farm and Crops* (University of Nanking, Nanking, China; December, 1932; \$2 gold).

Totals are as follows, with estimates of total area and total population from other sources given in parentheses:

<i>Areas (Million acres)</i>		
Total.....	1,931	(2,752)
Cultivated.....	190 ^a	—
Irrigated.....	46	—
Non-irrigated.....	144	—
Crops.....	233 ^a	—
Food crops.....	190	—
<i>Population (Millions)</i>		
Total.....		
Households.....	80	—
Persons.....	420	(474)
Farm Population.....		
Households.....	59	—
Persons.....	308	—

^a The crop acreage exceeds the cultivated acreage because double cropping is widely practised. In the Manchurian provinces, however, the cultivated acreage exceeds the crop acreage because double cropping is not common, while some land (included in the cultivated but not in the crop acreage) is fallowed.

These three tables also include various derived percentages; and the fourth table gives certain calculations of acreages per household and per capita.

The fifth table gives estimates (by provinces, groups of provinces, and total) of acreage, production, and yield per acre of 21 separate crops and three grouped categories of crops. Converted from mow, piculs, and catties into American units of measure and weight, the grand totals are as follows:

Crop	Acreage (million acres)	Production (million cents)	Yield per acre (cents)
Rice.....	43.10	1,166	27.0
Glutinous rice.....	5.78	139	24.1
Wheat.....	52.11	564	10.8
Barley.....	14.40	171	11.9
Kaoliang ^a	23.19	312	13.4
Millet.....	22.81	290	12.7
Corn.....	13.99	197	14.1
Other grains.....	8.93	35	8.9
Soy beans.....	26.78	309	11.5
Black beans.....	.69	7	10.4
Peas.....	1.79	20	11.1
Other legumes.....	3.18	35	11.0
Sweet potatoes.....	4.11	358	87.2
Irish potatoes.....	.82	54	65.9
Tarrow (taro).....	.32	33	100.9
Other tubers and roots.....	.01	1	116.7
Cotton.....	9.69	22	2.2
Tobacco.....	.33	5	14.3
Peanuts.....	2.68	59	21.8
Sugar cane.....	.47	65	138.6
Hemp.....	.25	3	9.9
Linseed.....	.18	1	6.6
Ramie.....	.01	1	6.4
Rape seeds.....	1.66	16	9.3
Total ^b	232.28	—	—

^a A giant sorghum.

^b Not printed in original.

The sixth and last tabulation gives certain derived statistics—the percentages of total crop acreage devoted to 20 separate crops. This table is followed by 12 dot maps, large (11½ by 15 inches) and easily readable and of great service to agricultural geographers. They show the geographical distribution of farm households, of cultivated land, of irrigated land, and of the production of nine major crops—rice, wheat, kaoliang, millet, corn, soybeans, peanuts, sweet potatoes, and cotton.

Certain of Chang's estimates add little to broad impressions of Chinese agriculture that were to be obtained from estimates previously available. His statistics of total population and total land area are of this sort. His estimate of total crop acreage confirms generally accepted impressions regarding geographical concentration of agricultural operations and regarding the short supply of crop acreage per capita. His list of crops important enough to be included in a general survey is about what would be inferred from non-statistical descriptions. His estimate of the percentage of the total population engaged in agriculture is close to several earlier guesses. It is interesting to observe that Chang's figure for China, 73 per cent "supported by agricultural industries," is very close to similar but not identical figures for Soviet Russia (71 per cent, "agricultural population," 1932) and India (72 per cent, "engaged in agriculture," 1921); but far above 1930 census figures for the United States ("rural population," 44 per cent, and "farm population," 25 per cent).

In many other respects Chang's estimates provide bases hitherto not available for appraising Chinese agriculture, or suggest the need for revising appraisals hitherto current. It is unnecessary to stress the value to agricultural geographers and economists of carefully compiled Chinese crop statistics presented province by province; or the value of statistics which enable one to ascertain the relative importance of different crops in Chinese agriculture, as is possible by reference to the preceding tabulation. Certain international comparisons made possible by the estimates, however, warrant numerical expression here. Others, of course, could be presented.

1. On the assumption that Chang's estimate of total crop acreage in the territory covered is substantially complete (referring to acreage of all cultivated crops including sown grasses, but excluding fallow land, permanent meadow and pasture, and tree, shrub, and vine crops), several inferences may be drawn regarding to the relative status of Chinese agriculture.

a. China ranks below either the United States, Russia, or India with respect to total crop acreage. Chang's incomplete estimate for China is 233 million acres;² and roughly comparable but more complete estimates for the United States (1931), Russia (1931), and India (1929-30, including the native states) are respectively 349, 338, and 329 million acres.³ It seems improbable that estimates of crop acreage covering all of China would raise Chang's partial total as much as 10 per cent.

b. Cereal crops are more prominent in the Chinese crop acreage than in the American, Russian, or Indian; and non-cereal crops are correspondingly less prominent. The cereal crops constitute roughly 77 per cent of the total crop acreage in China; 74 per cent in Russia; 68 per cent in the United States; and 66 per cent in India.

c. The population of domestic animals per farmer is possibly even

² With respect to *cultivated* acreage, China ranks still further below the other countries because of the extent to which double cropping is practised. Double cropping, common also in India, is rare in the United States and Russia.

³ Except for exclusion of fallow land and some adjustment of wheat areas, these estimates correspond to statistics of "arable land" given in the *International Yearbook of Agricultural Statistics*, 1931-32, pp. 95, 107, 126, 128. These figures and those given below for the United States, Russia, and India do not warrant close comparison. I have sought to utilize material in such a way as to provide broad but not detailed comparisons of the present position. Needless to say, international comparisons are treacherous because agriculture is dynamic rather than static; and in many respects the averages used in this note are subject to criticism on details.

smaller in China than in India, and certainly smaller than in Russia and the United States. Chang estimates that food crops occupy 82 per cent of the Chinese crop acreage. The percentage is about the same in India—where, however, strictly fodder crops appear to be somewhat more important than in China. In Russia, food crops occupy roughly 55–65 per cent of the crop acreage; and in the United States, barely more than 20 per cent.

2. Despite the predominance of cereal crops in the Chinese crop acreage, and despite the incompleteness of Chang's estimates, the total Chinese cereal acreage is smaller than those of the United States, Russia, and India. China does not lead the world in the acreage devoted to any cereal if sorghums, millets, and kaoliang are grouped as a single cereal.

The following tabulation, in million acres, illustrates the position:

Cereal	China	India	USSR	United States
Rice.....	49	83	^a	1
Wheat.....	52	32	91	60
Barley.....	14 _b	8 _b	17	11
Oats.....	_b	_b	43	40
Rye.....	_b	_b	69	3
Sorghums and millets.....	46	65	13	16
Corn.....	14	9	10	105 ^a
Other grains.....	4	19	7	
Total.....	179	216	250	236

^a Less than 1 million acres.

^b Not specified in the statistics; presumably included with "other grains."

3. With respect to the individual crops covered by Chang's estimates and occupying over a million acres in China, the Chinese *acreage* exceeds the American, Russian, or Indian acreages only in kaoliang, soybeans, and sweet potatoes. Since the Chinese acreage in these three crops so much exceeds acreage elsewhere, China undoubtedly leads the world in *production* of these crops also.

4. Chinese yields per acre of cereals are relatively high. Data for the five cereals grown in China (rye and oats are not reported separately and play a very small part in Chinese cereal production) are as follows, expressed in centals (100 lbs.) per acre, with comparisons:

Crop	China ^a	India ^b	USSR ^b	United States ^c
Rice.....	26.7	13.0	14.5	19.4
Wheat.....	10.8	6.5	6.6	8.6
Barley.....	11.9	7.7	7.3	10.9
Corn.....	14.1	5.7	5.4	15.5
Sorghums and millets.....	13.1	6.5	—	8.5

^a Chang's estimates.

^b Averages, mostly 1923–31 for India and 1925–30 for Russia, computed from *International Yearbook of Agricultural Statistics, 1931–32*.

^c Averages 1923–32 computed from *Yearbook of Agriculture, 1933*.

Chinese yields per acre greatly exceed Indian and Russian yields of all five crops. American yields compare more favorably with the Chinese, with corn yielding more per acre in the United States than in China. The Chinese rice yield, however, is somewhat below that of Japan; and Chinese yields of wheat and barley are lower than those of northwestern Europe.

5. Because of the relatively high yields per acre, China ranks ahead of India as a producer of rice and of sorghums and millets, and probably

consistently leads the world in production of these crops. China also outranks Russia and the United States in barley production, and consistently leads the world in barley production. The United States, however, produces much more corn than China, though China seems to rank ahead of Argentina as the world's second most important corn producer. In wheat, China may rank ahead of the United States but below Russia, though in particular years the order of any one of these three countries might be first, second, or third. The following tabulation, derived by multiplying yields per acre and acreages given in the foregoing tabulations, is illustrative. Figures are in million centals.

Cereal	China	India	USSR	United States
Rice.....	1,305	1,079		
Wheat.....	564	202	601	516
Barley.....	171	52	124	120
Corn.....	197	51	54	1,628
Sorghums and millets.....	602	423	—	61 ^b

^a Relatively insignificant.

^b For grain only.

6. If the statistics are trustworthy, the inference follows that the normal per capita supply of rough cereals is much larger in China than in India—probably more than 20 per cent larger. Total production of the cereals as given in the tabulation above (and these are the only important cereals of China and India) comes to 2,837 million centals in China and only 1,807 million in India; the incomplete figure for China therefore exceeds the figure for India (also incomplete, but perhaps less so than the Chinese figure) by more than 55 per cent. The annual per capita production of the grains specified above comes to 675 pounds in the Chinese territory covered by Chang's estimates; but in India the per capita production must fall between 510 and 600 pounds. The Chinese per capita production therefore exceeds the Indian by $12\frac{1}{2}$ to 32 per cent.

7. Despite the large total production of wheat in China, the per capita domestic utilization of wheat (allowing roughly for net imports) is relatively small at about 2.2 to 2.4 bushels of 60 pounds per year. This is more than twice as large as per capita utilization in India, Japan, Korea, Mexico, and a substantial list of tropical countries that grow little or no wheat. But it is less than a half, and often less than a third, of the per capita utilization in a long list of countries including Russia, the United States, Canada, Argentina, Australia, the British Isles, France, Italy, Belgium, Holland, Switzerland, Spain, Denmark, Hungary, Bulgaria, Greece, Chile, New Zealand, and some others. Even in the Chinese provinces of Shansi, Shantung, Hopei, and Honan, which together produce about 40 per cent of the Chinese wheat crop and grow little rice, the per capita wheat utilization averages only 3.4 to 3.7 bushels. This is lower than the per capita utilization in all of the countries listed above. It is lower also than utilization in Uruguay, Morocco, Rumania, Yugoslavia, Czechoslovakia, Austria, Algeria, Tunis, and Egypt; and little higher than utilization in Sweden, Norway, Germany, and Portugal. In Europe, the only countries wherein per capita utilization of wheat falls below that of the four Chinese provinces are Poland and the Baltic States, where the dominant cereal in the diet is still rye.

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GERMANY ADOPTS NEW LAND OWNERSHIP LAW

(Editor's Note: THE JOURNAL OF FARM ECONOMICS for January, 1934, included a note by Leo Drescher on "The New German Inheritance Law for Agriculture." Germany has enacted further legislation bearing on this matter since that note was prepared. The following statement from the January 15 issue of Foreign Crops and Markets (mimeographed), Bureau of Agricultural Economics, covers the later legislation.)

On October 1, 1933 the "New Federal Hereditary Farm Law" applying to all of Germany became effective and is believed to mark the beginning of a new epoch in the agriculture of that country. It expressly supplanted the Prussian law passed in May 1933 that provided for the establishment of hereditary farms and it further cancelled practically all other regulations contained in state laws and pertaining to farm inheritance. The law provides that farms under certain conditions, and these apply to about three-fourths of the total area now in farms, shall become definitely hereditary and not subject to free sale or purchase. A fixed order of inheritance is established and to preserve the hereditary farm intact definite protection against foreclosures or other liens on this land is provided for. The adoption of this law is in accordance with the idea that farming is primarily a method of living and not a business or means of getting wealthy. It likewise appears in line with the German legislation providing for fixed prices of certain agricultural products and aimed to provide more stability and certainty regarding farming operations.

Provisions of the law

Size of Hereditary Farms: All farms and forestry property ranging in size from the so-called "Ackernahrung" to holdings having a maximum of 125 hectares (309 acres) may be considered hereditary farms "Erbhöfe" provided they are owned by German citizens of Aryan descent. Under special circumstances a farm larger than 125 hectares may also be included. The conception as to what shall be considered as an "Ackernahrung" varies considerably according to the climate, the quality of the soil, the position of the land on mountain or river valley, etc. In general, it is considered to be a farm of sufficient size to fully maintain and support a peasant and his family. The minimum size probably varies from 8 to 10 hectares (20 to 25 acres), though in very poor soil districts the minimum may run as high as 50 hectares (about 125 acres).

The owner of such an "Erbhof" is called "Bauer," a term which under the present government has a distinctly different meaning from the word "Landwirt" or commercial farmer. The new term is intended to connote a farmer whose family, on the basis of social and economic traditions, holds the same farm through generations. Such people are expected to consider farming not as a business, but as a service to the family and to the nation. As one high official stated: "Farming is not a means of getting rich, but a method of living."

Order and Rules of Inheritance: The newly established Erbhof is to be inherited by only one principal heir. The rights of the co-heirs or minor heirs are from now on limited to that property owned by the farmer other than the farm, its buildings and equipment. In general, the law provides that the principle of feudal inheritance cannot be abolished or modified either by a decision of the farmer or by testament. The Erbhof is considered inalienable and, with few exceptions, cannot be mortgaged.

The Prussian hereditary farm law permitted considerable leeway in the

application of the sole inheritance principle, but the new federal law provides that the registration of all "Erbhöfe" must be made in the Hereditary Farm Register. The Prussian farm law specified no limits of farm size other than to exempt dwarf holdings and large estates. As previously mentioned, however, the Reich law provides definite maximum and minimum sizes for those farms that are to be included. In establishing the sole inheritance principle, the new federal law provides the following order of priority:

1. The sons of the farmer, and their sons and grandsons;
2. the father of the farmer;
3. the brothers of the farmer and their sons and grandsons;
4. the daughters of the farmer and their sons and grandsons;
5. the sisters of the farmer and their sons and grandsons;
6. the female descendants of the farmer and their descendants in so far as they do not come under the fourth category above.

It is further provided that if the principal heir already owns an Erbhof, he is still permitted to take over the new one provided, however, that his own former Erbhof becomes the property of the next heir who otherwise would have inherited the new Erbhof. This feature, of course, assures the principal heir of the best farm. If upon his death a farmer leaves more than one Erbhof, the heirs may choose one farm each, with the priority of choice following the order previously mentioned.

The testator is not permitted to modify in any way the principal of inheritance established by the law. This means that he can make no provisions for mortgaging the farm or for disposing of his other property in such a way as to overburden the principal heir. Under the former Prussian law the testator was permitted to select the heir for the farm. The new Reich law also provides that the farmer may select the principal heir, but in so doing he is limited to his sons and grandsons, and even this privilege is granted him only in those districts where the principle of sole inheritance was not customary prior to the establishment of the law. Exceptions to the above may be made only with the approval of the Sole Inheritance Court. The new law provides that the heirs other than the principal heir must be kept and educated on the Erbhof until they become of age. When they leave the farm, they are also to be completely outfitted, if the financial position of the "Bauer" permits it. Such heirs are also to be supported on the farm in later years if, through no fault of their own, they lack the means of self-support.

Legal Protection of Hereditary Farms: The Prussian Hereditary Farm Law permitted the sale of land from the Erbhof upon consent of the Sole Inheritance Court provided, however, that the land was first offered to the principal heir. This feature is also included in the new federal law, but the stricter provisions of the latter are such as to practically prohibit either the mortgaging, sale or division of the Erbhof.

A very important feature of the new federal hereditary farm law is the protection of the Erbhof from foreclosure. This protection applies not only to the farm and its inventory, but also to the products produced on the farm. A conditional exception is made in the case of mortgage claims by public credit institutes. If such institutes demand foreclosure, the Reichsnährstand is authorized to take over the farm debts. Details of the latter feature, however, are not yet available.

Comments and Appraisal of the Law

Historical Background: The new law provides nothing revolutionary in the methods of inheritance practiced in certain parts of the country, where sole inheritance has been the custom for centuries. Formerly, however, careful consideration was given to the interests of the co-heirs, and the coercion present in the new German law was lacking. Legislative reforms which took place in the 19th century removed the legal standing of the practice of sole inheritance. But even so the system continued almost unchanged in many parts of the country. Sole inheritance continues to be practiced in the Scandinavian countries, Austria, Czechoslovakia, Switzerland and elsewhere, partly because of custom, but in some places supported by legislation.

The rapid division of land which took place particularly in western Germany during the latter part of the 19th and the early part of the 20th century was to many very alarming. Under this system of so-called "real inheritance" the land was split up among the heirs. Where this division of land occurred in industrial areas, it caused little trouble since the owners of the land could supplement their incomes through full or part-time work in the nearby factories. Furthermore, those land owners who did not have factory work, could cultivate their land intensively and dispose of their products at a favorable price in the nearby markets.

In strictly agricultural areas, however, the breaking-up of the farms soon proved to be very uneconomical, and endangered both the economic and social position of the land owners who in many cases were unable to support their families on such small areas. For some parts of Germany, therefore, many economists have advocated the extension of legal support to the practice of sole inheritance beyond whatever legal support already existed. It was also demanded that further exaggerated division of land be made impossible. Legal support as advocated by these economists, however, was not the establishment of inflexible regulations but rather some legislation which would permit the continuance of sole inheritance even against the wishes and unreasonable demands of the co-heirs.

Such support, for example, might have included a provision that the inheritance valuation of the farm be kept at a moderate level, or that the principal heir should receive a larger share in the value of the farm than the other co-heirs. During the past thirty years state legislation attempted to provide reforms along the above line, but the efforts lacked coordination and must, in general, be considered unsatisfactory.

Probable Economic and Social Consequences: The law establishes compulsory sole inheritance affecting about three-fourths of all the land in agricultural use in Germany and these may be expected to have important economic and social consequences. Critics generally contend that the new law, unless changed, may tend to result in decreased agricultural production, a lower birth rate and the disappearance of private credit for agriculture. On the other hand, the new law will no doubt eliminate the burdensome mortgage debts formerly placed on inherited farms in order to satisfy the claims of the minor heirs. It will also prevent a reduction in the size of farms, a practice that has proved very uneconomical, especially in non-industrial areas. This feature, however, will also prevent any increase in the number of farms and, therefore, in the number of farmers as owners.

The modernization and improvement of farms and farm buildings has for years been carried out through the use of credit, particularly mortgage credit. Under the new law the credit obtainable by the "Bauer" will be greatly limited, since he can offer no other security than his personal word. The law provides, however, that in the case of poor management and reluctance or refusal to fulfill obligations, the inheritance court may transfer the Erbhof to the next heir.

A considerable share of the operating credit used in agriculture has depended either upon the mortgaging of farm property, or of a lien on the crops. Both of these are now prohibited by law and, in addition foreclosure is not permitted even though the farmer fails to meet the obligations called for by first mortgages. Present indications are that a bank will be established to take over existing mortgages and to issue some form of negotiable paper to the creditors. Farmers will then be given 50 or 60 years to amortize their debts. In this way agricultural credit institutions as they now exist will be gradually eliminated and farmers will be limited to personal credit, largely unsecured and probably furnished by cooperatives, or by the government.

By eliminating the necessity (or privilege) of mortgaging farms for the purchase of new land, or for settling the claims of co-heirs, the government hopes to also eliminate about 75 per cent of the present agricultural indebtedness. It is reliably estimated that from 30 to 35 per cent of the present agricultural debt is composed of personal credit largely obtained from banks. Most of this personal credit, however, is issued against tangible security in contrast to the unsecured personal credit proposed for the future. Although data are lacking, it is believed that the amount of unsecured personal credit before the war was much greater than since the war. The government believes that the security of farming under the Erbhof law and the stabilizing of farm income through the fixation of prices will lead to an increase in the amount of unsecured personal credit available for farmers.

It is not possible here to make a full analysis of the effects of the new inheritance law on German agriculture. It is clear, however, that the law, by making more or less arbitrary selection of farm owners and by placing definite limits on the number and size of farms, would have significant effects on production efficiency, on the type of agriculture, and on the trend and characteristics of the farm population.

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METHOD OF DETERMINING SIZE OF SAMPLE FOR THE COTTON GRADE AND STAPLE REPORTS

The study of problems relating to quality of cotton produced in the United States is facilitated by the use of reports on the grades and staple lengths of cotton ginned. The usefulness of these reports, issued by the United States Department of Agriculture and now available for the entire crops of 1928 to 1932, inclusive, will depend upon the extent to which agricultural workers and others using them acquaint themselves with the data and the procedure followed in preparing them.

In 1927 Congress enacted legislation (Act of March 3, 1927, 44 Stat. 1372-1374) authorizing and directing the Secretary of Agriculture to make each season periodic estimates of the grade, staple length, and tenderability of the current cotton crop,¹ it being specially provided that "not less than three such estimates shall be published with respect to each crop." The legislation does not specify, nor would it be expected to do so, either the manner of making these estimates or the basis upon which they are to be prepared.

In order to carry out the provisions of this legislation, it became necessary to obtain samples of cotton from different localities in each of the cotton-producing states. Prior to the inauguration of this work there were no detailed official data indicating differences in grade and staple length of cotton produced in these states or in subdivisions thereof, and for this reason the procuring of samples could not at first be planned to any great extent on the basis of stratifications according to differences in grade and staple length of cotton ginned in the producing states.

In order to obtain samples upon which to base the grade and staple reports, the Division of Cotton Marketing has made arrangements each year with certain ginners in different sections of the cotton-producing states whereby they agree to furnish a sample of about four ounces from each bale ginned at their gins, the sample to be drawn from the gin press box rather than from the bale after it has been pressed and tied. The samples thus obtained are shipped at frequent intervals to the classing offices of the Division of Cotton Marketing located in Atlanta, Austin, Dallas, El Paso, and Memphis, where they are classed according to government standards. The classification of these samples constitutes the basis of the grade and staple reports issued in compliance with the legislation of March 3, 1927.

When arrangements were made with ginners to furnish samples during the 1928-29 season, the first season² for which grade and staple reports were issued for the entire domestic crop in compliance with the legislation referred to, no comprehensive information was available that would show variations in the grade and staple length of cotton produced in the different cotton-growing states or in different localities within the individual states. In view of this fact, cooperating gins were selected that season without reference to these variations in grade and staple length and without particular reference to differences in soil and certain other factors that may contribute to variations, the purpose being to procure about the same proportionate sample in each producing state.³

When the data pertaining to the classification of samples had become available for the entire ginning season of 1928-29, as a part of the procedure of assembling these data in final form, the producing states were stratified into districts to furnish information for geographic areas smaller than states. This division into districts, the boundaries of which were adjusted to conform to county lines, permitted comparison of qualities

¹ The legislation provides also for estimates of the grade, staple length, and tenderability of stocks of cotton on hand in warehouses and other establishments in the United States on August 1 of each year.

² Preliminary work was carried on during the 1927-28 ginning season. The inquiry was of restricted scope, however, covering only the State of Georgia, twenty counties in northern Texas, and seven counties in contiguous territory of Oklahoma.

³ Except in Arizona, California, and New Mexico, for which states a larger proportionate sample was planned than for other producing states, principally because of the large volume of ginnings by individual gins.

ginned in different parts of producing states, and it represented the first attempt to take into account the factor of soil heterogeneity in the preparation of grade and staple reports provided for by the statute.

When the data for the 1928-29 season had been assembled according to districts, it became possible to employ some of the commonly used statistical measures in arriving at an appraisal of the extent to which the number of samples might need to vary from one district to another to obtain the best proportionate distribution of a given aggregate of samples. Accordingly, standard deviations, coefficients of variation, measures of average variability, and other measures were calculated for each district for 1928-29 and later for 1929-30.⁴ Interpretation of variability was based on these measures without any reference to variance analyses.

The figures on staple length of ginnings for the 1928-29 season showed, as have those for seasons subsequent thereto, wide variability in grade and staple length from one state to another and from one district to another within individual states. Interpretation of this variability seemed to indicate that a smaller aggregate of samples than that procured for the 1928-29 season would be adequate to represent variability in staple length for some districts, whereas a reduced number of samples for other districts might not be adequate to afford the desired representation.

When the reports on quantities of the different grades and staple lengths ginned in the various districts became available for the seasons 1929-30 and 1930-31, it seemed possible that further analysis of the variability might provide additional information on the adequacy of the basic data selected to represent the different stratifications made within districts for sampling purposes, and on whether or not there were indications that the relative proportionate distribution of the aggregates of samples procured in the various districts should be altered.

Through the application of established variance analysis principles, a mathematical procedure was developed by means of which the sample data could be analyzed and the differences from gin to gin and from season to season evaluated. In this way, together with the interpretation of results obtained from the calculation of standard deviations, coefficients of variation, probable and standard errors of the coefficients of correlation, and measures of significance of correlation, a statistical basis was established for apportioning a given aggregate of samples among the producing states and the districts thereof.

That part of the procedure concerned with appraisal of variability contributed from different sources was based on the study of differences in matched, or paired, data, the assumption being that measures of total variability, as well as measures of those fractional parts contributing to the total, could be more logically interpreted and effectively applied if calculated from differences in ginnings at the same gins during consecutive seasons. Accordingly, the cooperating gins were separated into two groups, one group comprising those gins from which samples were obtained during each of two consecutive seasons and the other group comprising those gins from which samples were obtained during only one of two consecutive seasons. Gins in the first of these two groups may be conveniently referred to in this paper as paired gins, and data representing the distribution of ginnings among the different staple lengths may

⁴ Credit for these analyses of the data pertaining to these two seasons is due R. E. Betts and others.

be designated as paired data. Similarly, gins in the second group, or those from which samples were received during only one of the two consecutive seasons, may be referred to as unpaired gins.

The data used in this phase of the analysis are, therefore, those showing distribution among the various staple lengths⁵ of ginnings at the individual cooperating gins from which samples were obtained during each of any two consecutive seasons studied. By separating the cooperating gins into the groups mentioned, there is available for analysis a paired series of observations on gins for each district for each of two consecutive ginning seasons. For example, there is a paired series pertaining to those gins from which samples were received during both 1930-31 and 1931-32, and there is another paired series pertaining to those gins from which samples were received during both 1931-32 and 1932-33.

A primary procedure in the analysis herein described is concerned with separating the total variability in ginnings of the different staple lengths by paired gins during consecutive seasons into correlated and uncorrelated parts and then further separating the uncorrelated part into two component parts, which for convenience may be designated "season" and "error." The latter of these may, for some purposes, be referred to as a residual. For purposes of these analyses the different fractions of variability are calculated in terms of the standard deviation squared and are referred to as "increments of standard deviation squared."

This method of analysis logically involves the concepts of correlation. As is well understood, the coefficient of correlation is the quotient obtained by dividing the covariance, or correlated part of variability, by the geometric mean of the variances. In actual statistical procedure the product-moment becomes the correlated fraction of variability, and the product of the two standard deviations, or the square root of the product of the two variances (that is, the square root of the product of the squares of the two standard deviations), constitutes the equivalent of the geometric mean of the variances. The quotient obtained by division is the correlation coefficient, a decimal indicating the numerical relationship between the correlated item and the geometric mean of the variances.

It is significant to observe that a perfect correlation coefficient of 1 may be calculated when there are but two observations in each of the two series correlated, so that it becomes apparent in correlation studies that a large number of observations may be necessary to overcome the "drag" of any two pairs of corresponding items toward unity. Unless there is a sufficiently large number of observations to overcome this "drag," the correlation coefficient may be misleading because of this one factor alone, if for no other, because as the number of observations diminishes there is ever present an increasing tendency toward unity, whether the relationship be negative or positive. This is mentioned because a very small correlated item may be associated with a correlation coefficient of 1 and may, therefore, be misleading if evaluated solely on the basis of its own magnitude.

The analyst who is measuring the variability in paired series, or in any other series that are being related, should remember that errors of observation do not cancel out in obtaining " r ," the result being that the magnitudes of the standard deviations and of the correlation coefficient may be

⁵ No similar analysis has been made of grade variations.

expected to be different from what they would be if the errors were not present. It is obvious, therefore, that the correlation coefficient may not furnish all the information necessary for interpreting the variability in certain paired series of observations.

In analyzing the differences in distribution of ginnings by cooperating gins among the different staple lengths, a correction may conveniently be made for an infinite sample on the basis of the respective degrees of freedom. For example, if there is a total of ten observations, two on each of five gins for two seasons, the degrees of freedom are 4 for gin (5-1), 1 for season (2-1), and 9 for the residual, or error (10-1).

The first procedure in allocating an aggregate of samples on the basis of results obtained from the analyses consists of determining the approximate number of statistical stratifications in each district within individual states. The average number of bales ginned at active gins is then calculated for each stratification in each district into which the states are divided, these calculations being based on total number of active gins and total number of bales ginned, by counties, as reported by the Bureau of the Census for seasons prior to that for which the sample is to be allocated.

In some instances the average number of bales ginned by active gins during the season immediately preceding may be more indicative of probable ginnings during the season for which the sample is to be allocated than the average for a period of two, three, or more seasons; and in certain other instances the average number of bales ginned by those gins from which samples were obtained during the previous season or seasons is desirable as a basis for the allocation of the sample for the current season. The proportionate distribution among the different stratifications of the total of averages so calculated is applied to the aggregate of samples previously decided upon for a given season. Indicated volume of current ginnings at the time agreements are made with ginners sometimes makes it advisable to alter slightly the distribution of the aggregate of samples as originally allocated among the states and their subdivisions.

In working with sample data, one can never be absolutely certain that the aggregate of individual observations is completely representative of the larger universe from which they were selected. There is no statistical measure that will show precisely the extent to which the sample is representative, nor is there any measure that will denote unerringly the probabilities of occurrences that are not already definitely known. The whole procedure of sampling, therefore, necessitates to a very large degree the application of sound judgment in addition to any conclusions that may be drawn from the results of rigid mathematical analyses.

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A WEIGHTED CROP INDEX

In farm management studies in the past it has been customary to figure a crop index which gave the average yield of crops on a given farm or other unit of area in terms of percentage of the yield obtained over a larger area, such as a state or nation. The yield of each acre in crops had the same weight in determining the crop index as any other, regardless of the

crop grown. In some cases this gave a picture of the production of a farm which did not truly represent the grade of farming done.

An acre of potatoes or corn is far more important than an acre of hay in determining the success of a farmer. Some system of weighting should be used that will give more importance to intensive crops. Probably the simplest method, and one that is based on economic values, is to weight by the approximate amount of labor required for the crop, i.e. by the productive man work units. This is the method used by the Agricultural Economics Department of the Pennsylvania State College since 1930.

While the process of obtaining such a weighted crop index requires somewhat more time than the older method, the difference in time is not great when a calculating machine is used and advantage is taken of all possible short-cuts. The procedure in detail is as follows:

1. For each crop to be used in computing the crop index, multiply the number of acres in the base area used to produce that crop by the productive man work units required per acre.

2. Divide the results obtained in (1) by the total yields of the crops. Each answer is the number of productive man work units (P.M.W.U.) required to produce one unit of yield.

3. Multiply the quotients obtained in (2) by 100, so that the final result will be expressed in per cent. The products are factors to be used later.

4. Find the total productive man work units on the crops considered in (1) for the farm or other area for which the crop index is desired.

5. Multiply the factors obtained in (3) by the total yields for the farm or other area for which the crop index is being computed.

6. Add the products obtained in (5).

7. Divide the sum obtained in (6) by the P.M.W.U. obtained in (4). The quotient is the crop index, weighted by productive man work units.

The factors obtained in (3) are constant and need be computed but once, provided the base is not changed. In (4) it is not necessary to obtain or record the productive man work units for each crop separately but the sum of the products can be accumulated in the calculating machine and only the final result need be recorded. In like manner (5) and (6) may be combined by accumulating the products and the result is in the machine ready to be divided by the result of (4). Of course, the yields used in (5) must be expressed in the same units (bushels, tons, pounds, etc.) as were used to obtain the factors in (3). The following is an illustration of calculating the weighted crop index for Adams county, Pennsylvania, taking the state average as 100, using the 1930 census data for acreage and yields, and using only the major crops. Let us assume that the productive man work units per acre are 5 for corn for grain and for silage corn, 2 for wheat and oats, 1 for hay, and 10 for potatoes.

(1) Productive man work units in Pennsylvania for 1929 are:

Corn for grain	=	950,074† × 5 = 4,750,370
Silage corn	=	227,059† × 5 = 1,135,295
Winter wheat	=	976,302† × 2 = 1,952,604
Oats	=	866,704† × 2 = 1,733,408
Hay (except wild grasses)	=	2,558,154† × 1 = 2,558,154
Potatoes	=	193,426† × 10 = 1,934,260

† Acres of the crop grown in Pennsylvania in 1929.

(2) The number of productive man work units required on the average to produce

1 bu. of corn for grain was	$\frac{4,750,370}{35,294,020\dagger}$	= .1345942 P.M.W.U.
1 ton silage corn	$\frac{1,135,295}{1,793,445\dagger}$	= .6330247 "
1 bu. winter wheat	$\frac{1,952,604}{17,216,476\dagger}$	= .1134148 "
1 bu. oats	$\frac{1,733,408}{22,921,194\dagger}$	= .0756247 "
1 ton hay	$\frac{2,558,154}{3,157,822\dagger}$	= .8101008 "
1 bu. potatoes	$\frac{1,934,260}{20,756,447\dagger}$	= .0931884 "

(3) Multiplying the above results by 100 gives the following factors:

Corn for grain	13.45942
Corn for silage	63.30247
Winter wheat	11.34148
Oats	7.56247
Hay	81.01008
Potatoes	9.31884

(4) Acres of major crops in Adams County in 1929 as obtained from Census figures were:

Corn harvested for grain	33,225 acres
Corn cut for silage	3,527 "
Winter wheat	38,401 "
Oats	11,165 "
Hay (not including wild grasses)	47,405 "
Potatoes	1,621 "

The total productive man work units on the above crops were:

$$(5 \times 33,225) + (5 \times 3,527) + (2 \times 38,401) + (2 \times 11,165) + 47,405 + (10 \times 1,621) = 346,507.$$

5 & 6) The production of major crops in Adams County in 1929 was:

Corn harvested for grain	1,015,298 bushels
Corn cut for silage	19,863 tons
Winter wheat	596,012 bushels
Oats	266,353 bushels
Hay (not including wild grasses)	63,589 tons
Potatoes	121,646 bushels

† Bushels or tons of crop produced in Pennsylvania in 1929.

Multiplying the yields by the factors in (3) and adding the products we get:

$$(1,015,298 \times 13.45942) + (19,863 \times 63.30247) + (596,012 \times 11.34148) + (266,353 \times 7.56247) + (63,589 \times 81,01008) + (121,646 \times 9,31884) = 29,981,593.$$

(7) $29,981,593 \div 346,507 = 86.53$, the crop index of Adams County weighted by productive man work units with the Pennsylvania average for 1929 yields as a basis.

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UNDERGRADUATE PREPARATION FOR A GRADUATE MAJOR IN AGRICULTURAL ECONOMICS

(Editor's Note: The following report was prepared by a committee consisting of George S. Wehrwein, chairman, L. J. Norton, Leland Spencer, H. R. Tolley and Warren C. Waite. The subject was considered in a roundtable discussion at the annual meeting in 1932 and the report was prepared subsequently in its present form.)

The committee sent questionnaires to the various agricultural colleges to ascertain present practices, and to obtain the opinions of those in charge of graduate work in agricultural economics. The replies indicated that students have better preparation at the present time than was the case in the past. As a rule, those graduating from the "home" institution were reported to be better prepared than those coming from other colleges, especially those coming from smaller schools, normal schools or teachers' colleges. Another group whose undergraduate preparation is usually deficient consists of county agents and others who, though graduates of agricultural colleges, majored in other phases of agriculture in their undergraduate days. One correspondent reported that his school was inclined to be lenient with these men. It was felt that their experience made up for their lack of formal education; however, they were encouraged to major in farm management rather than in some of the other phases of agricultural economics in order that their practical experience could be capitalized. Another group likely to be deficient is the group of graduates of liberal arts colleges sometimes coming from the same institution of which the agricultural college is a part. The committee considered two phases of the undergraduate training of the prospective graduate student in agricultural economics—(1) agricultural preparation; (2) preparation in economics.

Three alternatives were considered in connection with the first phase; (1) shall the student be a graduate of an agricultural college; (2) if he is not, should he have had certain basic courses in agriculture; (3) should farm experience be considered an adequate substitute for formal training in school.

The replies received indicate that while it is highly desirable that students majoring in agricultural economics have a degree from an agricultural college, it is not considered necessary for admission to graduate work. Others reported that students with the basic courses (but not necessarily the degree) are admitted at their schools. One college reports that they require practically the equivalent of a degree for admission, and another requires the degree for admission to work for the Masters, but not

the Ph.D. degree. The more general attitude can perhaps be summed up by quoting the reply of one writer:

We much prefer that a student who takes a major in Agricultural Economics have had a good basic training in agricultural science, but such training is not specifically required. We have, in fact, two professors in Agricultural Economics who took their undergraduate work in Arts and Sciences. They took some work in agricultural science after beginning their graduate study in Agricultural Economics. We consider farm experience very important as part of a student's preparation for a graduate major in Agricultural Economics, but do not consider it a satisfactory substitute for training in agricultural science.

The question of agricultural courses as part of the general preparation depends upon the individual's particular interest. If he majors in statistics or agricultural prices, the practical knowledge of farming or the fact that he had taken certain courses is not as important as if he were majoring in farm management. One correspondent says, "The student who has not had courses in soils, crops and feeding is usually lost more or less of the time when he is carrying a course in farm organization." Another puts it rather well when he says, "In my own opinion it would be easier to make an agricultural economist out of an economist than out of an agriculturist, though I would hold an almost contrary opinion in relation to the field of farm management."

Students deficient in such work can, of course, take the necessary supplementary courses in their graduate years.

There is considerable difference of opinion whether farm experience is a valid substitute for formal courses. As a rule it was not considered adequate, although the opposite opinion is stated as follows:

My own feeling is that any young man who has lived on a farm or had considerable farm experience is quite capable of undertaking graduate work in Agricultural Economics, providing he is graduated from a Liberal Arts College. I personally prefer to have students grounded in both economic and agricultural problems, to be trained in the social sciences of economics and allied fields, and to be trained in the agricultural courses particularly the basic background courses of the natural sciences. To my mind, this combined training is the most desirable for students in Agricultural Economics.

Finally, the liberal arts student with no farm background was considered. While he should not be excluded, it was felt by several correspondents that such students are too often out of touch and sympathy with farm life to be the ideal graduate students in agricultural economics.¹

The economic preparation of the student was considered in terms of the training which should be required (1) as to economics in general (2) as to courses in agricultural economics *per se*. The replies indicate that few schools set up requirements in agricultural economics as distinct from

¹ The following summary of preparation for the graduate major has been suggested:

1. Farm Experience. This is especially important for graduate students who major in Farm Management. Experience in agricultural business likewise is helpful to students who major in Marketing.
2. Training in agricultural science, particularly the basic science courses and courses dealing with the production of crops and animals.
3. Training in economic theory and finance. In most institutions about 10 semester hours of work may profitably be taken as an undergraduate, in addition to the other courses in agricultural sciences and Agricultural Economics.
4. Training in mathematics and statistics. This is particularly important for graduate students who major in Prices or Statistics.

general economics. Some of the schools set up no requirements for admission to graduate work in this field other than the general requirements of the graduate school of the University as a whole. Some correspondents say that they prefer adequate training in general economics to training in agricultural economics as a foundation. Others even go so far as to suggest that too much undergraduate economics should not be required, leaving specialization to the graduate school. The replies indicate that the requirements vary from vague "two years of undergraduate study in agricultural economics" to definite quarter or semester hours. Those replying in the latter terms show that from 15 to 20 semester credits in general economics is the usual requirement for admission to the graduate work. In one or two cases the hours are split between general and agricultural economics.

The recommendations of the committee are as follows:

1. That the door to graduate work in agricultural economics should be left open to all promising students. If the student is a person of ability, his undergraduate work may have been in any field. Too rigid or fixed standards for entrance to graduate training and too much standardization between institutions should be avoided.
2. The program of each graduate student should be mapped out according to the goals at which he is aiming. If this involves taking courses in other fields to supplement the work in his field of specialization, this should be done.
3. Students should have a minimum number of courses or hours equivalent to 18 to 20 semester hours of work in fundamental economics and agricultural economics, particularly in theory and statistics in their undergraduate work (with some work in agricultural economics, if possible).
4. General training in agriculture is desirable, though not absolutely essential. It is also suggested that courses in mathematics and in the foreign languages required for the Ph.D. and basic training in English composition could well be included in the undergraduate work of a prospective graduate student.²

THE EFFECT OF THE FEED-EGG RATIO ON NUMBERS OF YOUNG CHICKENS IN FARM FLOCKS ON JUNE 1

The number of baby chicks hatched, either on farms or in commercial hatcheries, appears to be closely related to the ratio between feed costs and egg prices during the hatching season but with the number of hens and pullets of laying age in farm flocks on March 1 operating as a second important variable. The variations in numbers of hens and pullets of laying age which are reported in farm flocks on March 1 largely reflect profitability of feeding chickens for egg production in preceding months, and is therefore in part an indication of earlier relationships between feed costs and egg prices.

² One member of the committee emphasizes the two last points: "Courses in foreign languages sufficient to meet the requirements for a doctor's degree are highly desirable for students who plan to go on with the doctor's degree. This is one of the most practical difficulties in connection with work for this degree at this time. 'Higher standards in writing the English language than are now required for the undergraduate degree should be established. In the absence of this, courses in the first year of graduate work should require a great many written reports which should be checked carefully with respect to expression. Students who are hopelessly handicapped in this respect might well be eliminated, provided they cannot eliminate these faults. It is a basic defect in our educational system which permits men who cannot use the English language properly to get university degrees.'"

The original data for demonstrating these relationships are available only since 1927 and are therefore too few to justify exact statistical treatment. They are, nevertheless, sufficient to indicate the nature of the relationships. These relationships have been separated by the approximation of regression lines and the successive elimination of factors. The following tables show the original data with the approximated regression lines used and the resulting residual values.

TABLE 1. APPROXIMATE REGRESSION AND RESIDUAL VALUES FROM RELATIONSHIP BETWEEN NUMBER OF HENS AND PULLETS IN FARM FLOCKS ON MARCH 1 AND NUMBER OF CHICKS AND YOUNG CHICKENS IN FARM FLOCKS ON JUNE 1

Year	Hens and pullets of laying age March 1	Chicks and young chickens June 1	Approximate regression	Residual
	<i>Aver. per farm</i>	<i>Aver. per farm</i>	<i>Chicks per farm</i>	<i>Chicks per farm</i>
1927	88.9	142.9	147.5	-4.6
1928	89.1	130.2	148.2	-18.0
1929	84.0	138.3	131.7	+6.6
1930	88.0	145.7	144.7	+1.0
1931	83.7	127.3	130.6	-3.3
1932	81.6	130.6	124.0	+6.6
1933	82.6	138.9	127.2	+11.7

The number of chicks and young chickens on June 1 was accepted as the best available measure of the hatch because it was assumed that this figure would be better than the one reported for July 1, at which later date a large number of the broilers had been sent to market. Neither report can be considered as accurately representing the hatch but these are the best indications which have thus far been made available.

TABLE 2. APPROXIMATE REGRESSION AND RESIDUAL VALUES FROM FEED-EGG RATIO AND RESIDUAL VALUES OF TABLE 1

Year	Feed-egg price ratio Mar.-Apr.-May aver.	Residuals from Table 1	Approximate regression	Residual
	<i>Dozen eggs</i>	<i>Chicks per farm</i>	<i>Chicks per farm</i>	<i>Chicks per farm</i>
1927	6.17	-4.6	-5.3	-0.7
1928	6.64	-18.0	-18.0	0.0
1929	5.51	+6.6	+7.3	-0.7
1930	5.88	+1.0	+0.9	+0.1
1931	5.87	-3.3	+1.0	-4.3
1932	5.56	+6.6	+6.4	+0.2
1933	4.96	+11.7	+11.5	+0.2

The feed-egg ratio was constructed by dividing the cost of a feed ration, in terms of farm prices, by the reported average farm price of 1 dozen eggs. The monthly cost of feed is calculated by the Division of Crop and Livestock Estimates based on farm prices of 62 pounds of corn, 14 pounds of wheat, 8 pounds of oats, 2 pounds of barley, 9 pounds of bran, and 5 pounds of tankage. The tankage is included to represent the cost of animal protein for which a sufficiently long price series, in other forms, is not available. The egg price is the average farm price as reported on the 15th of the month. The ratio, therefore, is expressed in terms of dozens of eggs. Table 2 shows the approximated relationship between this factor

and the residual values of Table 1 which are very small with the exception of the year 1931. This was a year of heavy winter egg production and unusually low winter prices of eggs with an erratic feed-egg ratio as a result. Under these conditions, the feed-egg ratio during March, April, and May was less effective as a factor affecting the hatch than when more normal seasonal relationships have been maintained.

TABLE 3. TOTAL ESTIMATE OF CHICKS AND YOUNG CHICKENS IN FARM FLOCKS ON JUNE 1 AS COMPARED WITH NUMBER REPORTED BY CROP CORRESPONDENTS

Year	Approximation Table 1	Approximation Table 2	Total estimate Tables 1 and 2	Numbers reported
	<i>Young chickens</i>	<i>Young chickens</i>	<i>Young chickens</i>	<i>Young chickens</i>
1927	147.5	-5.3	142.2	142.9
1928	148.2	-18.0	130.2	130.2
1929	131.7	+7.3	139.0	138.3
1930	144.7	+0.9	145.6	145.7
1931	130.6	+1.0	131.6	127.3
1932	124.0	+6.4	130.4	130.6
1933	127.2	+11.5	138.7	138.9

The algebraic sum of the approximate regressions of Tables 1 and 2 show the total number of chicks and young chickens in farm flocks on June 1 each year as estimated from the effect of the two factors described above. In Table 3 these sums are calculated and compared with the number of chicks and young chickens as reported by crop correspondents.

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Bureau of Agricultural Economics

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BOOK REVIEWS

Mussolini's Getreide-Schlacht; Italienische Landwirtschaft im Zeichen der Diktatur (Mussolini's Grain Battle, or Italian Agriculture Under the Fascist Regime), by Emil Müller-Einhart. Regensburg: G. J. Manz. 1933. Pp. 188.

Dr. Emil Müller-Einhart in his "Mussolini's Grain Battle" presents the background which induced Mussolini to enter the campaign for increased wheat production, a description of the procedure involved, a statement of the results achieved and finally his opinions relative to the futility of such an attempt at national self sufficiency in the face of the benefits to be gained from an international division of labor and a correct appraisal of comparative costs.

Italy, using 189 kilograms per capita, is, next to France, the heaviest consumer of wheat in Europe. Further, her population has been increasing at the rate of 350 millions per year. The ensuing increase in wheat consumption resulted in 1922-1923 in an import of 31.9 million quintals of wheat out of a total consumption of nearly 75 million quintals. The harvest of 1923 was good but 1924 brought severe reverses again necessitating heavy imports in 1925. The newly established Fascist Government saw in this situation an opportunity to gain prestige by initiating a campaign for increased wheat production. This was conceived to be possible through an increase of the average yield per hectare. To aid the program and to hasten its success governmental measures were instituted and large governmental appropriations were made. The measures included special laws, special rates, reduced tariffs, subsidies, demonstration and education. Press and cinema were enlisted to bring the battle of wheat to both urban and rural population. Local prizes were awarded, the main prize in the annual wheat victory competition being given by the "Duce" himself.

The campaign, according to Müller-Einhart, is heralded as highly successful, judged by the official reports. These indicate that the yield of wheat per hectare has been increased from 10.4 quintals in 1909-1914 to 12.42 in 1926-1930 and for 1932 the unusual yield of 15.2 quintals was achieved. The production of wheat which likewise had been increased from 50 million quintals in 1909-1913 to about 57 million quintals in 1923-1927 and to 71 million quintals in 1929, in the year 1932 reached the unheard of figure of 75 million quintals.

However, according to the author, these figures are doubted by various authorities because of the government monopoly in yield and production statistics. Especially do they doubt the yield and production of 1932 when the 10th anniversary of Fascism so opportunely called forth the blessing and bounty of nature.

Mussolini's campaign for increased wheat production, Müller-Einhart declares, disregards the natural conditions which make Italy only a moderately good wheat producing area. Especially is this true of southern Italy and the Islands where climate and soil both function to give low yields and low production. Italy, by her program, he insists, has sacrificed to Spain much of her trade opportunity in special cultures such as fruits, olive oil, wine, etc. But Fascism is intent on her agrarian policy, a policy dictated by fear of war and the dependent position which Italy occupies

lying as she does in the midst of the Mediterranean with her access to the grain growing nations of the west controlled by Gibraltar.

The author concludes that the cost of the battle of wheat has been greater than the benefits. The physical gains, he says, are effective examples of what can be done but are doubtful wisdom in an economic sense and all things considered, he believes it has not paid and that it will not in the future.

Interesting in this connection is the recent report for 1933 which credits Italian farmers with further increases in the yield per hectare and the extraordinary total of over 80 million quintals.

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Bureau of Agricultural Economics

Gold and Your Money, by Willard E. Atkins. New York: Robert M. McBride and Co., 1934. Pp. 164. \$1.75.

The title would imply that in the mind of the author, monetary problems are a vital factor in our economic life. However, his conclusion (p. 162), seems to be that monetary problems are one of the lesser factors in determining our economic well-being or lack of it. He says, "Our answer is that monetary problems constitute a nostrum. Our problems are not money problems. The difficulties following 1929 have arisen out of the general maladjustments in the congeries of institutions that go to make up what is called the money economy or capitalism."

The question naturally arises as to why one should write a book on a subject that has little relation to the main issue. Evidently the purpose is to point out that the public has been following false gods. But, if the gods are false, he has not offered much that may be set up in their place.

The first chapter is given over to a discussion of the history of the use of gold as money, an explanation of what the gold standard is, and concludes by noting that the ordinary citizen sees little difference in his situation whether we are on or off the gold standard.

Chapter two outlines the authority granted the President under recent acts; (1), to bring pressure on the Federal Reserve System to buy as much as \$3,000,000,000 of government securities in the open market; (2), to issue as much as \$3,000,000,000 in paper money to retire the funded debt; (3) to devalue the dollar by as much as 50 per cent; and (4), to use silver as a base along with gold at some fixed ratio.

He considers that open market operations carried on aggressively, now that the corner has apparently been turned, might have some significance. On the question of fiat money, he recites the advantages and disadvantages but is non-committal. He considers devaluation as inflationary in the sense that the government acquires additional dollars without transferring dollars from individuals to the government by taxation. Regarding bimetallism, he again is non-committal.

Chapters three to seven, inclusive, are given over to a discussion of the way the gold standard works out in practice and of the rôle of money in economic life.

The conclusion is that, "The only safe gold standard is an international gold standard," but he sees no prospect of its adoption. With intense international rivalries likely to be a continuing factor in the situation, he feels that, "Any reestablishment of the old gold standard, permitting a

free flow of gold between nations, therefore, is likely to have a short life." However, he concludes (p. 163), "In view of the conventional importance attached to gold, it is probably desirable to reestablish a gold standard basis at some reasonably near date." Inasmuch as nothing except an international gold standard is likely to work and that not likely to be accepted, the reason for an early return to the gold standard upon the part of the United States is not evident.

In considering the role of money, he calls attention to the fact that currency is a minor item in our supply of money as compared with bank deposits and that the current discussion of the gold standard has tended to obscure this fact. "Most of the criticism of money arises because of the instability which upsets calculations and weakens its value as a standard for deferred payments." But he argues there is no reason why money has to be the standard for deferred payments and perhaps, a stable price level would have disadvantages, as for example, in war.

Father Coughlin and "Coin" Harvey have the distinction of being the subject matter of his longest chapter. The basis of their appeal lies in the universal suffering from inability to pay debts and to get jobs. The cause, in their view, is simply the dearth of basic money metal. The explanation is simple and the public likes their concrete way of holding particular culprits, e.g., international bankers in the case of Father Coughlin, up to scorn.

The last chapter, called the "Money Doctors," is given over to a brief criticism of the ideas of Professors Warren and Fisher. "Coin" Harvey and Father Coughlin stand on common ground with Fisher and Warren. In that both groups place the blame for depressions on monetary causes. Fisher's plan is dealt with in summary fashion; it wouldn't work, it is hard to get a satisfactory index number, gold does not automatically control prices, it would disturb foreign exchange rates and, even if it would work, a stable price level is not desirable.

In his discussion of Warren, he says, "But there would be a limited value, of course, in a proportionate rise of all prices. It would largely leave the situation as it is except for a change in the mathematical level of money values. If any rise in prices is to be greatly helpful, it is a differential rise in prices." Throughout this and other discussions, he apparently assumes that Warren teaches that there is an immediate direct relation between prices and gold. As a matter of fact, Warren's writings explain at length that any rise in prices is a differential one and a long drawn out affair with raw materials rising first and cost of distribution and wages being relatively little affected for some time and that many services more or less regulated by government respond very slowly indeed.

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Stand und Aussichten des Baumwollbaus in der Sovet-Union, by Alexander Melkich. Berlin: Berichte über Landwirtschaft, Neue Folge, 82 Sonderheft, Verlag Paul Parey. 1933. Pp. 109.

In this monograph on Cotton production in the Soviet Union, the author has described the goal of the Soviet for independence from capitalistic countries, in cotton production, the plans they have formulated for attain-

ing this end, the obstacles in the way of fulfilling these plans, the amount of progress made up to the present, and the probable ultimate degree of success.

Total consumption of cotton in Russia has increased from the equivalent of about 930,000 bales in 1924-25 to about 1,630,000 bales in 1928-29, and was larger in the latter year than in 1913. This increased consumption is taken from increased production within the country, the quantity imported averaging about 500,000 bales yearly from 1924-25 to 1928-29. Cotton is a large item in the total imports into Russia, its value varying yearly between 15 and 20 per cent of the value of all imports, from 1924 to 1929. In order to avoid paying out large sums of money, and in order to be independent of capitalistic countries, the Soviet regime has set as its goal a production of cotton sufficient to supply its own needs.

Plans have been made from time to time by the Soviet regime for the acreage of cotton to be grown and the expected production, new plans being made and new goals set on the basis of the degree of success in attaining the old goals. The original 5-year plan called for a total production of 2,800,000 bales in 1932, but about 1,900,000 bales were actually produced that year. Yields have declined considerably, due in large part to raising cotton on lands not well adapted to it, so that total production has increased less than acreage. The Soviet officials plan to raise yields above their present low levels, but do not hope to attain yields as high as in the pre-war period, when cotton was grown mostly on lands well adapted to it.

There are three ways in which the cotton acreage can be and is being expanded: (1) shifting from other crops to cotton in the old established cotton regions; (2) rebuilding and construction of irrigation works in the same region, to bring new lands into cultivation and to secure better results, through better water supply, on the lands already in cultivation; and (3) introduction of cotton into new areas where it has never been grown, or at least only experimentally.

The author proceeds to develop the difficulties encountered. The shifting from other crops to cotton in the old established irrigated cotton areas of Central Asia and Transcaucasia brings with it all the problems incident to a one-crop system. The farm organization must be changed radically, the fertility of the soil will decline because alfalfa is no longer grown as extensively, feed costs will be high and manure scarce, peak demands for labor will be increased, with consequent lowering of the yearly average amount of work done per worker, and the whole farming system will be one of high risks. The soils of this region are not naturally very fertile and are poor in nitrogen, so that the lack of legumes and manure will be especially severe.

Higher cotton production and lower feed and grain production result in higher feed prices, destroying the profitableness of cotton. Although some grain and feed can be produced on dry lands, if the irrigated area is to be mostly devoted to cotton, a large part of the feed will have to be shipped in. With each increase in cotton acreage in the irrigated areas of Central Asia and Transcaucasia in the past, larger amounts of grain have been shipped in from other areas, according to the author. The lack of railway facilities and the cost of shipment have increased the cost of this grain to the cotton producer. Although the Soviet regime can establish

price relations between various agricultural products, they must be prepared to supply the cotton producers with adequate supplies of grain if they are to secure the full cooperation of the farmers in producing cotton. These farmers are exposed to the risks of crop failure of their own cotton crop and to the failure of the grain crop in the regions from which they secure their grain.

Although irrigation has been practiced in Central Asia and Transcaucasia for centuries, the existing systems are inefficient. The author points out that water is not always available when needed, is frequently wasted, and there is constant quarreling over its division. There are a large number of small canals, largely duplicating one another in service, and interfering with one another's operation. It would appear that these irrigation systems could be rebuilt to insure more efficient operation, better irrigation facilities for land already cultivated and water for additional lands lying within the limits of these canals. However, the operations of the Soviet regime in this connection to date have not been very successful. Some of the canals and dams built have been washed out. Although the existing system is not very efficient as compared with what might be built, it has been developed as the result of long experience, and the native population is able to make it work, at least moderately successfully.

A number of new irrigation projects have been proposed, that if successful would bring into cultivation new lands adaptable to cotton production. Some efforts have been made in the past to construct such projects, but the author thinks they have been almost uniformly unsuccessful. Although in time the rebuilding and construction of irrigation projects will increase the cultivated area adaptable to cotton, any substantial increase will require a long time and large expenses for completion. The Soviet is handicapped at present by a lack of skilled engineers. This, and the usual hazards of irrigation construction, make the extent of the area increases very problematical.

The Soviet has made extensive efforts to introduce cotton into the Ukraine, Cascaucasia, Krym and lower Volga regions, where it has been grown experimentally but not commercially for years. Although cotton can be grown here, it will ripen before frost in only a few small areas, and probably not every year. The value of unripe cotton picked after frost is so low and the costs of picking it are so high that cotton growing cannot be profitable under these conditions. The risk of crop failure is so great in a large part of these new regions that it seems probable that crops can be secured only a small percentage of time.

Cotton production is not especially profitable in Russia and efforts have been made to produce it more cheaply. Although better machinery and power equipment offer some possibilities of lowering cost of production, the author questions how far this can go. As in this country, the lack of cotton picking machinery and the necessity for a labor force for picking makes the advantages from large-scale machinery rather small.

In conclusion, the author states that the program of the Soviet for cotton independence has not yet been fulfilled in any large measure. He makes the following points: Acreage has increased considerably, but total production only to a small extent; the increases in cotton production desired by the Soviet will be secured at higher and higher costs; the efforts of the Soviet to make cotton production more profitable have so far been a

failure; and even should the Soviet program be fully realized, it would mean a per capita consumption of cotton about one-fourth of that in the United States.

The author seems to show quite clearly that Russia has only limited areas which can be profitably devoted to cotton production, if economic forces are allowed full play and that if the Soviet is to secure a cotton production adequate for its own needs, it will have to stimulate production in artificial ways. This will result in cotton of high cost, if not in money at least in human effort. If such cotton is to be made available to the Russian people at low cost, the Government must absorb the difference. From the point of view of the Soviet regime, to make the country independent of other nations, this program may be justified.

Marion Clawson

Bureau of Agricultural Economics

World Wheat Survey and Outlook, January 1934. Wheat Studies of the Food Research Institute, Vol. X, No. 4, Stanford University, January, 1932. 40 pp. \$.50.

This review of the world wheat situation and outlook is characterized by completeness and apparent unbiased analysis, in consequence, it constitutes a source of information in which the reader may have a high degree of confidence. It is fortunate that those who are interested in the wheat problem, have available that type of information which is presented in this and similar reviews by the Food Research Institute.

Relative to the world wheat survey the statement is made that the 1933 wheat crop is over 200 million bushels smaller than the crop of 1932, but that due to the large initial stocks, the total supplies are only about 100 million bushels smaller than in 1932-33. The January estimate of the crop, ex-Russia, is 190 millions larger than the September estimate. The major exporting countries, particularly the United States and Canada, have total supplies much smaller than those in 1932-33, while the European supplies are much larger.

The large crops and initial supplies in the importing countries of Europe and the more stringent governmental regulations relative to imports, caused the August-December total volume of international trade in wheat and flour to reach its lowest post-war level. With the exception of the subsidized exports from the Pacific Northwest, the United States was practically out of the export market. Particular attention is given in this review to the governmental measures instituted by the various countries, and to the developments under the International Wheat Agreement.

Wheat prices tended to decline, except in the effectively protected import markets during August-December, and more rapidly in the first than in the second part of the period. Other than the reaction from the speculative boom, the dominating influences were the bearishness of the international statistical position of wheat and the instability in the relationship of international currencies.

The volume of international trade in 1933-34 is estimated to be about 550 million bushels, of which Argentina and Australia may contribute 215 million bushels; the United States and Danube countries, 75 million, which is less than their quota; Russia, 30 million; Canada, 215 million, which is more than its quota; and other countries, 15 million bushels.

Wheat disappearance in the world, ex-Russia, is estimated to be larger in 1933-34 than in 1932-33, by about 25 million bushels. "In the United States, wheat ground into flour and retained domestically will be reduced, but, rather because flour stocks will be consumed than because flour consumption is being curtailed under the processing tax." The analysis on which this conclusion is reached is worth while considering by the various publications of milling interests, some of whom have made rather extravagant claims relative to the influence of the processing tax on domestic consumption of wheat flour.

The prospective world disappearance will probably exceed production, resulting in a reduction of stocks by 120 million bushels, but the level of world stocks will remain at more than 300 bushels above normal. The carryover in the United States is forecasted at 240 million bushels.

International wheat prices in gold or in currency are more likely to decline than to rise before early April, and due to the discouragement of holders of futures who have been counting on spectacular inflationary news, and to the increasing recognition of the statistical position of wheat in the United States, Chicago prices may decline relative to Liverpool and Winnipeg. Price changes after early April will be governed by the new crop condition.

R. W. Cox

University of Minnesota

Problems of Population, the report of the proceedings of the Second General Assembly of the International Union for the Scientific Investigation of Population Problems, edited by G. H. L. F. Pitt-Rivers. London: George Allen & Unwin, Ltd., 1932. Pp. 369. 15s.

Population Trends in the United States, by Warren S. Thompson and P. K. Whelpton. New York: McGraw-Hill Book Co., 1933. Pp. X, 415. \$4.00.

These are the two best books that a person can read who wishes to become acquainted with the subject of population. The Proceedings of the second assembly of the International Union provides a symposium by the leading students of the subject in Europe as well as the United States; while the volume by Professors Thompson and Whelpton provides the most complete assemblage of data for the United States contained in any book, and these data are interpreted by outstanding authorities. But, although the Assembly of the International Union was held in 1931, and the volume by Thompson and Whelpton was issued early in 1933, both volumes are becoming a little out of date, in places, so rapidly is the decline in births developing. This statement applies to the interpretation of the data as well as to the data presented. For example, the "medium" estimate of future growth of population in the United States, apparently preferred by Thompson and Whelpton, provides a figure for 1940 of 10,900,000 children under 5 years of age. But using their estimates of births each year, including a preliminary estimate for 1933 supplied to the writer, it appears that there will be scarcely as many children of this age in the Nation in 1935 as was estimated for 1940. Since the Census was taken in 1930 the number of children under 5 years of age has decreased, apparently, 9 per cent. Persons over 65 years of age, on the other hand, have increased 12 to 15 per cent. Such changes, particularly as they seem

likely to continue for some time, are of importance in relation to the future consumption of milk and many other farm products.

"Problems of Population" consists of 25 papers and several discussions together with reports of 6 committees, introduced by an editor's preface and a brief address by the President of the International Union, Sir Charles Close. The papers of particular importance to Americans are:

"Economic Aspects of the Tendency of Population in Great Britain." By Professor A. L. Bowley

"Trends in Agricultural Production in Denmark." By Professor Jens Warming

"The Future Growth of the Population of the United States." By Professor P. K. Whelpton

"The Fertility of the Social Classes in Stockholm in the Years 1919 to 1929." By Dr. Karl Arvid Edin

"The Outlook for the American Birth-Rate." By Dr. Louis I. Dublin

Discussion: Dr. Dunlop; Dr. Dublin; Professor Fairchild; Captain Pitt-Rivers; Mrs. How-Martyn

"The Relation of Social Status to the Fertility of Native-born Married Women in the United States." By Dr. Frank W. Notestein

"Has the Reproductive Power of Western Peoples Decline?" By Professor Frank H. Hankins

"Some Factors in Population Density." By Professor C. B. Fawcett

"Some Effects of Current Migration Restrictions." By Professor J. W. Gregory

"A New Aspect of Population Theory." By Professor H. P. Fairchild

"Population Trends in the United States" illustrates what can be done by two scholarly workers assured of security of tenure and protected from interruptions and distractions by their location at a small and less accessible university. The book is a splendid summary of census and other data, corrected for underreporting, etc., interpreted by graphs as well as text, and applied to some of the very urgent problems of the present day. The interpretation is conservative, the application is cautious. If there be error in judgment, it is in failing to prepare the reader adequately for developments that appear to be approaching with greater speed than any student of population a few years ago would have thought possible.

The contents of this useful book can, perhaps, best be summarized by the chapter headings:

- I. The Growth of Population in the United States
- II. The Distribution of the Population
- III. The National Origins of the White Population
- IV. The Age Composition of the Population
- V. Sex Composition
- VI. Marital Condition
- VII. Deaths and Death Rates
- VIII. Births and Birth Rates
- IX. Population Growth from Immigration and Natural Increase
- X. Probable Trends and Consequences of Future Growth
- XI. Population Policy

APPENDIX TABLES

This is a book notice rather than a review. To review adequately these various contributions to the study of population progress and prospects would require many pages. The object of this notice is to tell where infor-

mation can be obtained on population trends and prospects. The importance of such information cannot be overemphasized.

Not enough children are now being born in the United States to maintain permanently the present population, unless the birthrate rises or heavy immigration from Europe is resumed, both of which appear unlikely. However, the population of the Nation will continue to increase, though at a slower rate, for at least 5 years, probably 15 years, possibly 25 years, because the large number of middle-aged people, the heritage of a higher birthrate and heavier immigration in the past, must first grow old and die. The stationary population probably will last only a few years, and will be followed by a decline, unless steps are taken to prevent it. Such a decline, which will proceed probably at an accelerating rate, will affect not only vast changes, geographic and otherwise, in the production and consumption of farm products, but also in the value of property, interest rates, taxation, private initiative and governmental functions, social organization, political issues, patriotic emotions and even religious convictions.

Already the slackening in population growth is having important consequences. Consumption of farm products particularly is not increasing as rapidly as after previous depressions. Moreover, the age composition of the population is changing and this is affecting the demand for different products differently. Some of these consequences are noted in Chapter X of "Population Trend," while population policy is considered in Chapter XI. A more complete discussion of these aspects of the subject will be found in Professor Thompson's, "Population Problems," published a year previously.

O. E. Baker

Bureau of Agricultural Economics

The American Farmer and the Export Market, Austin A. Dowell and Oscar B. Jesness. Minneapolis: University of Minnesota Press, 1934. Pp. 269. \$2.00.

As the authors say in the preface, the subject under consideration is far from simple. They have succeeded in demonstrating this undoubted fact very clearly. The first third of the book, Part I, is occupied with a sketch of farming as an industry, the last chapter of which contains a picture of the export surplus situation. It is shown that we use about a sixth of our crop acreage, 60,000,000 acres, in the production of crops and animal products destined to need, if not to find, a market abroad.

The second third of the book, Part II, deals with the home market for farm products. The consideration of such subjects as the growth of population, the hope of increased consumption, or the removal of sub-marginal land from the crop category and the possible shift from the production of export to import crops brings the discussion to a consideration of national self-sufficiency. The reduction of acreages sufficient to curtail output by 16 per cent is shown to be less simple than might be imagined. For example, a uniform reduction is not what the case demands. We would need to reduce wheat output a little over 20 per cent, corn and hogs appreciably less than that, while cotton would require a cut of over one-half. This is unthinkable in terms of present arrangements and prospects. The authors arrive at the conclusion that national self-sufficiency is not prac-

ticable, and that our farmers in some way must expect to meet the competition of other export countries.

Thus the "Export Market," Part III, brings the discussion to a head, and re-emphasizes the complexity of the problem. It is remarked that the "scientific" solution of the tariff question by an equalization of costs of production is unscientific. A chapter devoted to "Tariff Fundamentals" gives a fairly satisfactory sketch of tariff theory and its place in the development of American industry and agriculture. The authors very properly state that effective tariffs are a form of taxation. Just how they conclude that a restrictive tariff "operates as a tax to the extent that it raises the prices paid by consumers," is not so clear, especially since they remark on the same page that a prohibitive tariff "affords perfect protection, but affords no revenue."

The discussion of the difficulties of restoring foreign trade, the desirability of the same, and the relation of foreign trade to the AAA is stimulating, and interesting. Attention is called to the specific and concrete troubles of the manufacturers in making sales outside the country in view of our own restrictions on imports. We are, apparently, trying to disprove the old statement that we can not sell indefinitely without buying.

While the general tone of the book is not particularly optimistic with respect to a solution of the farm problem, there is a hopeful note in reference to the international agreement concerning wheat. Probably it was felt that the cheerfulness of the comments would not be promoted by a concrete statement of the export quota allowed us. No doubt any amicable agreement is better than none. At least it won't decrease our exports much. In the final paragraph the indubitable conclusion is reached that: "If this country insists upon traveling along the road to economic nationalism, export markets for many products will cease to exist." But that we can well get along without these markets is apparently not the conviction of the authors.

Benjamin Horace Hibbard

University of Wisconsin,

The Economics of Recovery, by Leonard P. Ayres, New York: The Macmillan Company, 1933. Pp. 185. *Economics of the Recovery Program*, by Seven Harvard Economists,¹ New York: McGraw-Hill Book Company, 1934. Pp. 188.

These two books are appraisals of the "New Deal" program from the viewpoint of the economist, written in a relatively general and non-technical style in order that they may be widely read. In content they are in sharp contrast to a large part of the flood of books and articles of recent months which have been concerned either with stirring up opposition to the recovery program or with singing its praises. It is fortunate that the books here reviewed, plus a few late magazine articles, have now appeared to ask some intelligent questions both about government "pump priming" in general and about the various recovery devices now being applied in particular. Leaders in the formation of public opinion

¹ The seven Harvard economists are: Douglass V. Brown, Edward Chamberlain, Seymour E. Harris, Wassily W. Leontief, Edward S. Mason, Joseph A. Schumpeter, and Overton H. Taylor. Each of these men contributed an essay on some aspect of the recent legislation.

need to rid themselves of propaganda influences and review this new program more objectively. In this evaluation process both of these books should be great aids.

Here we shall note primarily the observations in these books on the general proposition of government aid to recovery and on the industrial control and agricultural adjustment features of this recent legislation. Other parts of these books such as the diagnoses of the origin of the depression and the consideration of new banking laws and of inflation, though able presentations, will be given only passing reference since they contain less that is new in fact or idea. Therefore only some of the Harvard essays will be referred to.

The writers of both of these books emphasize that the new legislation is to be viewed as a recovery, not a reform, program. Therefore, they assume that revival will come largely through the activities of enterprisers in a fashion similar to that in previous depressions and that the cause and effect relations during revival will be as demonstrated in orthodox economics.

Colonel Ayres doubts the efficacy of any governmental recovery activities except those which "remove barriers." Recovery must come through private enterprise, particularly in the durable goods industries, which will be ready to expand when it can see a profit ahead. Essential to this expansion is "sound money," to give business assurance and the creditor confidence.

The Harvard economists, while weighing more carefully the evidence for and against the program, seem, when one considers the general tenor of their essays, to doubt the resuscitating powers of governmental action and to be particularly critical of the remedial effects of most of the recovery program. Schumpeter writing on depressions says "recovery is sound only if it comes of itself . . . artificial stimulus leaves part of the work of the depression undone" and he is particularly opposed to "remedial measures which work through money and credit."

As an introduction to the consideration of the N.R.A. and the A.A.A., *The Economics of the Recovery Program* contains an essay on "Purchasing Power" by Professor Edward Chamberlain in which the writer calls attention to some fundamental errors in the widely worshipped devices which claim to increase purchasing power. He does not, however, give a clear-cut, positive demonstration of how prices and business volume do rise with a recovery. This point is explained cogently by Ayres who attributes the increase of purchasing during a recovery to the anticipation of future income by the purchasers of durable goods. For this and other reasons Ayres finds that the durable goods industries occupy the key rôle in recovery.

Turning more specifically to the N.R.A., Ayres denounces it as unsound in its economics and in its purposes. First, it reverses the sequence of events in a recovery. "In previous periods of business recovery industrial prices and volume of production have moved up ahead of wage increases. This has enabled producers to make profits . . . to secure bank credit . . . to increase volume of employment." . . . "This time the theory of the new arrangement is that business should advance the increased purchasing power first, and then trust to resulting greater demands and increased output to make good the advances. Thousands of businesses cannot oper-

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ate even temporarily at the losses resulting from the increased costs imposed by the new codes and still secure bank credit with which to expand operations" (pp. 98-99). In this statement Ayres has hit the point raised in the minds of economists in general and expressed by J. M. Keynes in his open letter to the President last December, namely, "Does the N.R.A. put the cart before the horse?" In the second place, Ayres holds that the recovery program is in error in assuming that the key to employment lies in the stimulation of the less durable consumer goods industries, while in reality the chief difficulty lies in the durable goods industries. Although it could be argued that the stimulation of consumer demand should lead to an expansion in the output of capital goods, Ayres cites the securities act, monetary uncertainty, and uncertainty of regulation under codes as aspects of the "New Deal" which inhibit the necessary profit prospect and lending for such increase of capital goods. Finally Ayres attacks the recovery program, particularly the N.R.A., as essentially a reform program at a time when the first need is recovery. To these criticisms of the Industrial Recovery Act, Edward S. Mason in writing on "Controlling Industry" agrees in general, although he pays more attention to the monopolistic tendencies of the N.R.A., concluding that "certain code provisions also constitute a distinct menace not only to recovery but to reform." He doubts the effectiveness of eliminating unsocial methods of competition by the codes, and is justly critical of the possibility (and some actuality) of price agreements and restriction of output. Altogether both books feel that the N.R.A. as a recovery measure is unsound, if not in a large part vicious.

Both Wassily W. Leontief's essay on "Helping the Farmer" and Ayres' chapter on "Agricultural Relief" are critical of the A.A.A. Leontief questions whether any national gain is consequent upon "the simple transfer of a certain number of dollars from the hands of the industrial population into the farmer's depleted pocket book." He argues that parity between industry and agriculture should not be measured by "old relations of price levels," when "there exists a definite set of economic forces which are working toward" another conception of parity "the equalization of the rewards of capital as well as labor in all the different branches of economic activity." Ayres' attack on the A.A.A. repeats much of what has been said in recent issues of the Cleveland Trust Company Business Bulletin. He presents a graph (page 78) of the wholesale prices of farm goods divided by the wholesale prices of industrial goods, which is designed to show that the exchange values of farm products have tended upward since 1820. In this interpretation he assumes that farmers buy and sell at wholesale—a misleading conception of the purchasing power of farm products. Then in order to show that agriculture is in no more need of relief than industry, Ayres divides an index of the wholesale prices of industrial goods by the urban cost of living which gives a ratio of less than one from 1921 to 1932, and which during most of the 1920's was less than the ratio of prices received by farmers to prices paid. Thus he undertakes to make the cause of "parity" appear ridiculous. Such reasoning is partially in error in the following regards: (a) the increased costs which go to make up the spread between farm or wholesale and retail prices are the charges of urban transporting and distributing agencies, and (b) there is a higher correlation between prices received and gross income in the case of

agriculture than in urban industry. Ayres' criticism is somewhat justified for to assume that variations in the ratio of prices received to those paid indicates changes in the net income in industry or in agriculture is to assume that efficiency has nothing to do with the determination of that net income. In this connection it is interesting to recall that while the "ratio" was unfavorable to agriculture from 1921 to 1933, W. I. King finds that the per farm net income in "1913 dollars" was larger from 1923 to 1928 than prior to the war. At the same time, however, indications are that urban industry was able to combat still more successfully any price disadvantage which it may have met after the war. Ayres tries to avoid the loss of foreign markets argument for the A.A.A. by asserting the inconsistency in reduction of production and the irrigation of additional lands and experimental work. This apparent inconsistency is largely rectified if one concludes that the A.A.A. is a *temporary* program as compared with the *long-run* purposes of experimentation and as compared with the irrigation policy of the present administration.

One of the most stimulating essays in *Economics of the Recovery Program* is that by Overton H. Taylor on "Economics Versus Politics." His chief concern is with "economic realism" and "political realism." A policy full realistic in the economic sense may be proposed without due consideration of politics. Equally inexcusable is the formation of policies which are realistic politically but ignore economic fundamentals. "Political appeasement" aimed to forestall still worse political action must be a part of a recovery program. The great difficulty politically is that "No one, great group . . . can afford not to exercise upon government . . . enough political pressure and unscrupulous cunning to bend the policies of the government in its favor if it can." "Yet . . . economic realism must, . . . insist upon the no less evident facts, that this political struggle among economic groups in times of depression . . . hinders national recovery." The solution lies in a renunciation of special interest legislation . . . the ideal of *laissez-faire*. But the proponents of *laissez-faire* were not political realists for wherever there are strong interests, or discontented groups, they will attempt to obtain preferential legislation. The solution lies in a "realistic compromise between two unattainable ideals"—the economic ideal of *laissez-faire* and the political ideal of complete government control.

Numerous suggestions of the "New Dealers," such as the necessity of controlling corporations, of redistributing income, of an "honest dollar," and that the old economic principles are not applicable, find little merit in the minds of the writers of these books. Colonel Ayres even seems to pay little attention to the desirability of considering "political realism" in forming a governmental program. Positively, neither book offers much except "sound money" and *laissez-faire*; and therefore these writers seem to infer that the proper solution to the present depression lies largely in the old processes of readjustment of private economic activity in order that a workable equilibrium of outputs and prices may be established.

R. B. Heflebower

State College of Washington

Current Monetary Issues, by Leo Pasvolsky. Washington: The Brookings Institution, 1933. 192 pp. \$1.50.

Here is a book that gives the background of international monetary

events in the year 1933. It is not a book on monetary theory. On the contrary it is a well written account of the futile efforts of experts and statesmen to stabilize the international money market.

As to his purpose the author states it is "to set forth and analyze the monetary issues that now agitate the world, as well as the conflicts of ideas and policies which have so far prevented any effective solution." In his setting forth of monetary policies dominating world politics, Mr Pasvolsky has made his chief contribution. Those who go to the book for an analysis of monetary issues will find the subject treated more thoroughly in regular textbooks on money and foreign exchange.

Outstanding in the book is the treatment of the major monetary issue before the world in 1933, namely, the raising of internal price levels versus the stabilization of foreign exchange. Through the discussion of the experts preparing the agenda for the World Economic Conference down to the final curtain on the Conference itself the author handles this subject well. The reader may readily believe he has actually attended the secret meetings behind closed doors and overheard the whispered conferences of the men whose decisions made history in 1933.

In this section of three chapters dealing with events in Geneva, Washington and London, Mr. Pasvolsky makes a significant point. A reading of these portions of the book gives an insight into the forces acting upon the men high in political office in various countries. Instead of being a series of unrelated events, the discussions and decisions before and during the World Economic Conference fall into a closely knit pattern. In fact, the author gives the impression that the outcome of the Conference was predestined to serious difficulties or failure before it convened, even as far back as the meetings of the experts at Geneva in January when accord could not be reached on the question of raising internal prices. Later, after the United States left the Gold Standard the inevitable gap between gold and non-gold countries, according to the author, made the probable success of the Conference even more remote.

In the discussion of the gold purchase plan in the United States, the argument advanced is disappointing. This section, the only one in which the author ventures into monetary theory, is marred by the attempt in a few pages to disprove the thesis attributed to Warren and Pearson that there exists a *mathematically precise* relationship between the general price level and the price of gold (Page 114). The evidence presented by the author in support of his stand is the weakest part of the book. In view of the extensive researches made in the field of price level determination and the quantity theory of money it is surprising that a Brookings publication should appear in which a position on a highly controversial issue is taken without reference to monetary authorities or to fundamental research on the subject.

On the whole the book is a valuable addition to economic history, particularly to the history of monetary events in 1933. The extensive array of documents in the appendix including the monetary discussions on the Annotated Agenda and Declarations of Policy at the London Conference make the volume a useful one to the economist.

William G. Murray

Iowa State College

Kemmerer on Money, by Edwin W. Kemmerer. Philadelphia: The John C. Winston Co. 1934. 197 pp. \$1.50

This little book is a revision and amplification of eleven articles which the author contributed to the *New York Sun* during December, 1933, and January, 1934. It is described on the title page as "an elementary discussion of the important facts and underlying principles of the money problems now confronting the American People."

The book begins with a discussion of gold and paper standards, and of the gold purchase plan adopted by the federal government in the latter part of 1933. The next two chapters deal with the greenbacks and with Germany's inflation. Then come two excellent chapters dealing with the silver question. The book concludes with a section on debtor and creditor relationships, and with the author's recommendations for a speedy return to gold.

The book will undoubtedly have a wide appeal. It is the product of one of the most eminent authorities in the field; it deals with current monetary problems of crucial importance and high public interest; and finally, it is written in popular, non-technical language, so that even the layman will find it easy to read. Professor Kemmerer has rendered a service by explaining in everyday terms the fallacies inherent in many of the recent currency inflation proposals. The chapters dealing with silver are exceptionally good, showing as they do the selfish sectional interests, as well as fallacies, that lie behind the silver proposals.

But I believe that the book will be severely criticised, and I think rightly so, by many monetary experts and general economists. From the standpoint of scientific objectivity, the author's handiwork is marred by a pronounced "hard-money," creditor-minded bias that runs through the reasoning and crops out unmistakably at many points. A large part of the book reads more like propaganda than science. It would have been better if it had been entitled "All the Arguments, Valid and Otherwise, Against Inflation," or something of that sort. The book is really not the impartial treatise on money that its actual title implies.

For example, the author has devoted one-sixth of the entire book (pp. 57 to 94) to detailing the evils of inflation, but only one or two incidental sentences to the bad effects of deflation. Yet of the two, deflation is by far the worse in its effects on society. Both unfairly redistribute wealth; but in addition, deflation does something which inflation does not do—it slows up the whole machinery of production, and reduces the total of the wealth being redistributed. In a time like the present, a properly managed moderate or controlled inflation would be beneficial, not only in restoring the equitableness of the debtor-creditor relationships that was destroyed by the recent deflation, but also in calling idle money out of hoarding and helping revive production.

But to Kemmerer's mind, there can be no such thing as a moderate or controlled inflation. To him, there is only one kind of inflation; the kind that goes sky-high. Accordingly, he devotes 20 pages to an energetic rattling of the skeleton of Germany's post-war inflation. But how in the name of fairness can he choose that unfortunate country to illustrate his point? Germany, defeated in a costly war, overloaded with debt and finally "dominated by the pressure of her erstwhile enemies, to exact from her a preposterous amount of reparations," as the author admits on pages

77-78 and 82, is hardly the country to choose as a parallel to the United States today. Let us consider two other countries that come closer. France although prostrated after the war almost as much as Germany, was able to keep her inflation within limits only about twice as great as our own. And as for England, it is now generally agreed that her post-war troubles were much aggravated by her premature deflationary return to the pre-war gold standard in 1925, and were much relieved by her abandonment of gold in 1931. Our situation in the United States in 1933 was immeasurably more similar to England's post-war situation than it was to Germany's; but Kemmerer refers only to Germany. Anyone who endeavors to convince by reasoning by analogy, and in so doing ignores a similar case and bases his appeal on a radically dissimilar case, can hardly be considered to have proved his point; nor can his work be considered objective and impartial.

Again, the author devotes a complete chapter to the harm to creditors that would result if inflation took place (Chapter 10) but only one or two purely incidental sentences (pp. 48, 157) to the injury to debtors and to all but interest-receivers, that deflation has already wrought, and that continued deflation would prolong and further deflation would accentuate. So much concern over the only class which has come through the recent depression practically unscathed (the income study recently conducted by the Department of Commerce shows that by 1932, total interest payments had declined only 4.2 per cent from 1929 levels, while the incomes of all other groups had declined from 30.1 to 56.6 per cent) seems rather out of place. It is like the winner in a card game breaking out into a lament about the sadness of his plight should the other players later win their money back.

There are many authorities who will differ with the author's arguments (pp. 175-182) for "reflating (sic) our currency back to the old gold dollar"; and they will differ for other reasons than the "chiefly political" ones given by the author (pp. 182-185). I believe also that most authorities will disagree with the statement that "the giving up of the gold standard in the spring of 1933 was unnecessary and was a great mistake" (p. 184). Does he mean that we should have remained on gold until the frightened depositors who got there first, and worse, the "far-sighted, intelligent cynics" referred to with apparent approval in the February 1934 issue of the *Cleveland Trust Bulletin*, had drained out all the gold, so that the country's gold would then be in the hands of anti-social private speculators rather than in the hands of the government? Certainly that is the meaning that the layman would get out of it. Furthermore, the average reader will also get the impression from the book that if we will but return to the gold standard, that will automatically, as it were, take care of our monetary troubles. Hardly any mention is made of the fact that the conditions under which the gold standard works well have largely broken down since the war; that this break-down needs rectification before a return to gold will be the panacea that the book implies; and that in any case, even under good conditions, the automatic gold flow mechanism is becoming a thing of the past.

This review, in common with most other reviews of books on money, seems to express a good deal of disagreement with the book being reviewed. There are, I believe, two reasons for this; (1) It takes longer to

express disagreement than approval; and (2) the field of money is so controversial that any one who takes a position, however omniscient he may be, is exposed to fire from many different angles. There is a great deal of Kemmerer's book, however, that will elicit approval from all sides. He has again made clear that crude currency inflation is no cure-all for a troubled world, and has shown that in particular the silver proposals are doubly sham. Among the heterogeneous group of recent books on money, Kemmerer's book, I believe, will rank high, perhaps one of the highest in the conservative section. The reader, like Alice in Wonderland would be well advised to take a bite of Kemmerer, and then a sample of Keynes or Cassell on the other side, and so on, endeavoring thus to keep his proper stature; and let us hope that he does not suffer from indigestion.

Iowa State College

Geoffrey Shepherd

NEWS ITEMS

The National Association of Marketing Officials in annual convention at Washington, D.C. December 18-20, 1933, explored the entire field of "New Deal" developments in agricultural production and marketing and their bearing upon established state and federal marketing services. Representatives of the Agricultural Adjustment Administration and the Farm Credit Administration described the activities of those agencies and outlined their objectives in rehabilitating the economic condition of agriculture. There were discussions of standards for farm products, of federal-state inspection, of market news. Speakers representing cooperative marketing organizations, commission merchants, and other business interests discussed the economic effects of various phases of the Government's emergency agricultural programs. Proceedings are being prepared for publication. Officers for 1934 were elected as follows: H. B. Davis of West Virginia, as president; George A. Stuart of Pennsylvania, as vice-president; and S. A. Edwards, Hartford, Connecticut, as secretary.

Emergency workers under the Civil Works Administration were used by the Bureau of Agricultural Economics during January and February in gathering information particularly needed for use in connection with recovery work. The Division of Crop and Livestock Estimates employed about 3,000 people in a survey of prices farmers pay, in most of the States. The Divisions of Agricultural Finance, Land Economics, and Farm Population and Rural Life employed about 6,400 assembling data on tax delinquency, farm mortgage foreclosures, and land values. The Division of Cotton Marketing employed 178 persons gathering cotton statistics, and others working on cotton linters. Five other projects, used small groups at Washington in the Graphic Section; on data for the Graphic Summary of American Agriculture in the Division of Land Economics; in the Bureau library; and in the Foreign Agricultural Service Division on two sets of statistical analysis.

Pennsylvania Association of Cooperative Organizations

A permanent association of agricultural cooperative organizations operating in Pennsylvania was organized at a meeting of cooperatives held at Pennsylvania State College on December 7 and 8. The purposes of the new association as stated in its constitution and by-laws are: To promote the welfare of cooperative agricultural associations operating in Pennsylvania, by bringing them together in this Association for the study, discussion, and solution of mutual problems; to sponsor and support constructive legislation which will be valuable to cooperative agricultural associations and to Pennsylvania agriculture; to aid in establishing cooperative service agencies for the use of its members; and to advise and assist public and private agencies which are working for a better agriculture.

Crop production loans to farmers for crop production and harvesting during 1934 were provided for by an appropriation by Congress of \$40,000,000 to be administered by the Governor of the Farm Credit Administration.

A new farm tillage laboratory, the only one of its kind in the world, in which studies will be made to find the type of machines best suited economically to the soils of the Southeast, will be built by the U. S. Department of Agriculture at Alabama Polytechnic Institute.

The position of Professor of Game Management has been created in the Department of Agricultural Economics of the University of Wisconsin. Mr. Aldo Leopold, an authority on game conservation, formerly associate director of the Forest Products Laboratory at Madison, has been appointed to take charge of this new activity.

Professor Arnold P. Aizsilnieks of the University of Riga, Latvia, is pursuing studies in the fields of agricultural marketing and cooperation at the University of Wisconsin.

Dr. Wilhelm Anderson has been appointed as state supervisor of a Federal Civil Works Administration project to be carried on in Illinois by the Division of Subsistence Homesteads of the Department of the Interior. Doctor Anderson, who received his Ph.D. from the University of Chicago in 1932, will make his headquarters at the College of Agriculture of the University of Illinois while conducting this study.

Associate Professor Henry H. Bakken of the Wisconsin College of Agriculture has a research project under way dealing with consumer preferences for different kinds of tobacco.

Dr. R. W. Bartlett, of the College of Agriculture at the University of Illinois, has been requested by Mordecai Ezekiel, Economic Adviser to Secretary of Agriculture Wallace, to serve as a member of an advisory committee on dairy marketing.

Dr. Alva H. Benton has been granted leave of absence from his position as head of the Department of Marketing and Rural Organizations at North Dakota Agricultural College, and will be engaged in crop replacement work with the Agricultural Adjustment Administration, Washington, D. C.

Dr. E. L. Cady and Mr. Ira W. Arthur of the Extension Service, Iowa State College, have been granted leave of absence for work on the direct marketing of livestock in the Bureau of Agricultural Economics, Washington, D. C.

Mr. John Franklin Carter of Washington, D. C., recently an economic adviser to the Division of Western European Affairs, Department of State, has been appointed Special Adviser on political economy to the Agricultural Adjustment Administration.

Professor H. C. M. Case, Head of the Division of Farm Management in the Department of Agricultural Economics at the University of Illinois, has been granted a leave of absence until September 1, 1934, in order to work with the Farm Credit Administration in Washington, D. C. He is directing the work of establishing debt conciliation committees in different states and counties.

Mr. Marion Clawson, Division of Farm Management and Costs, Bureau of Agricultural Economics, will assist state agricultural workers in conducting a type-of-farming study in Utah this spring and summer.

Mr. Melville H. Cohee of Indiana, a graduate research assistant of the Department of Agricultural Economics, University of Wisconsin, has accepted a position with the Soil Erosion Division of the Department of the Interior. He will advise farmers in Wisconsin erosion areas on farm management problems connected with the erosion prevention program.

Mr. John H. Draxler, former research assistant of the Department of Agricultural Economics, University of Wisconsin, an appraiser for the Federal Land Bank at St. Paul, was granted leave of absence in order to take charge of a part-time farming survey in Wisconsin. The work is under the direction of Professor M. L. Wilson of the Division of Subsistence Homesteads, Department of the Interior.

Mr. J. A. Evans, associate chief of the Office of Cooperative Extension Work and in charge of extension work in the Southern States, U. S. Department of Agriculture, retired December 31. Mr. Evans had been connected with agricultural extension work continuously since its beginning. Recently he had been actively associated with the cotton production control program and other phases of the work of the Agricultural Adjustment Administration affecting southern farming.

Dr. G. M. Francis, Assistant Professor of Economics at Western Reserve University, Cleveland, Ohio, has been selected as director of a Federal Civil Works Administration project of the Bureau of Agricultural Economics, United States Department of Agriculture. This project is entitled "Farm Mortgage and Land Values in Illinois." Doctor Francis received his Ph.D. from the University of Illinois in 1927.

Mr. R. K. Froker, Associate Professor of Agricultural Economics, University of Wisconsin has been granted a leave of absence for the second semester of the current academic year to become associated with the dairy program activities of the Agricultural Adjustment Administration. Professor Froker was in Washington during last summer and a large part of the first semester.

Mr. Harold Hedges of the Department of Rural Economics, University of Nebraska, has been appointed Secretary of the Bank for Cooperatives at Omaha.

Mr. A. Clair Hoffman, Assistant Professor of Agricultural Economics, Wisconsin College of Agriculture spent a few weeks in Washington assisting in the Special Crops division of the Agricultural Adjustment Administration.

Dr. G. L. Jordan, Assistant to the Dean of the College of Agriculture and Director of the Agricultural Experiment Station and Extension Service, University of Illinois, was granted a leave of absence until February 1, 1934, for service in the Farm Credit Administration with Professor Case in debt conciliation committee work.

Professor P. E. Johnston has taken charge of the extension work in the Department of Agricultural Economics at the University of Illinois. This work was formerly under the direction of Professor R. R. Hudelson, now Assistant Dean.

Dr. J. S. King, Hon. Secretary of the Agricultural Economics Society and Advisory Officer on Farm Economics to the Department of Agriculture for Scotland, died on August 22, 1933.

Mr. Archie Leonard, who completed the work for a Master's degree in agricultural economics at the Oklahoma A. & M. College, has been appointed as an assistant in the Department of Agricultural Economics at the University of Illinois. He is doing graduate work toward a doctor's degree in agricultural economics.

Professor Gabriel Lundy, South Dakota State College, is teaching courses in farm finance at the University of Minnesota during the spring quarter.

Mr. E. L. McBride of Oklahoma, a graduate research assistant, Department of Agricultural Economics, University of Wisconsin, during the first semester of the current year, has taken a teaching position in the Department of Agricultural Economics, Oklahoma Agricultural and Mechanical College at Stillwater, at the beginning of the second semester. He will teach courses in farm credit and finance.

Mr. James G. Maddox of Arkansas, a graduate research assistant at the University of Wisconsin has accepted a position in the Agricultural Credit Administration at Washington. For a short time prior to accepting the Washington position, Mr. Maddox was assistant to Mr. W. F. Renk who has charge of the production credit program in Wisconsin.

Mr. P. K. Norris, cotton specialist of the Foreign Agricultural Service Division, Bureau of Agricultural Economics sailed March 3 for Brazil, where he will study the present status and probable future trend of the cotton growing industry in that country. He expects to return about July 1.

Dr. L. J. Norton, of the Department of Agricultural Economics at the University of Illinois, is on leave of absence until September 1, 1934, working with the Farm Credit Administration. He spent some time in production credit work in California, and is now Field Organizer for the Production Credit Corporation of Spokane.

Mr. Kenneth H. Parsons of Indiana, a graduate research assistant at the University of Wisconsin is now on the staff of the Agricultural Credit Administration in Washington.

Dr. E. A. Perregaux, Extension Economist of the Connecticut Agricultural College, spent the fall quarter at the London School of Economics and is at the University of Minnesota for the winter and spring quarters.

Mr. Paul Quintus, research assistant in agricultural economics, University of Minnesota, has joined the staff of the Agricultural Adjustment Administration.

Dr. J. Wayne Reitz, formerly an assistant in the Department of Agricultural Economics at the University of Illinois, resigned September 21, 1933, in order to accept a position in the Division of Economics and Statistics of the Farm Credit Administration.

Mr. Harry E. Ratcliffe, assistant agricultural economist of North Dakota Agricultural Experiment Station since 1930 has been named Assistant Professor of Agricultural Economics in the School of Agriculture, assuming the instruction duties of Mr. W. A. Cleveland, now with the Federal Land Bank of St. Paul, Minnesota.

Dr. Marvin A. Schaars, Assistant Professor of Agricultural Economics, University of Wisconsin, is in Washington, D. C. working on the direct marketing of livestock project of the Bureau of Agricultural Economics.

Mr. Paul A. Taylor has been given a temporary appointment as an assistant in farm management research, Iowa State College.

Miss Lila K. Thompson, of the Division of Statistical and Historical Research, Bureau of Agricultural Economics, died December 22, 1933. Miss Thompson began work in the Office of Farm Management about 17 years ago as a clerk, and reached the position of research analyst. She contributed largely to the making of "Foreign Crops and Markets" in the first years of its present form of publication. She was the first woman to be sent abroad by the Bureau of Agricultural Economics, working for a year at the International Institute of Agriculture and at the Berlin office. Her most important work as research analyst was in working out bases for forecasting wheat yields in Canada, Argentina, and Australia.

Mr. Harry Trelogan has been appointed research assistant in Agricultural Economics, University of Minnesota.

Mr. Arthur True of the appraisal staff of the Federal Land Bank, St. Paul, is with the Agricultural Adjustment Administration.

Mr. Lloyd Ulyot of the Division of Agricultural Economics, University of Minnesota, is on leave to work with the St. Paul Bank for Cooperatives.

Dr. H. L. Walster, has been named acting director of agricultural extension at North Dakota Agricultural College, in addition to his duties as dean of agriculture, and will be director of the agricultural experiment station after July 1.

Dr. George S. Wehrwein, Professor of Agricultural Economics, University of Wisconsin was on leave of absence the first semester of 1933-34. He was engaged in the completion of special researches in the field of land economics.

Miss Florence E. Ward, Home Economics Specialist for the Eastern States, Extension Service, U. S. Department of Agriculture, died of pneumonia at Washington, D. C., on February 23, after a brief illness.

Sixteenth International Congress of Agriculture

will be held in

BUDAPEST, HUNGARY

June 13-20, 1934

This Congress is sponsored by The International Commission of Agriculture, which is controlled and supported by National Farm Organizations of many countries.

The program is divided into eight sections:

- I. Agricultural Policy and Rural Economics.
- II. Agricultural Education and Extension.
- III. Agricultural Cooperation.
- IV. Plant Production.
- V. Viticulture.
- VI. Animal Production.
- VII. Agricultural Industries.
- VIII. The Farm Woman.

The program committee is arranging five excursions to places of interest to visiting agriculturists. These excursions, of from one to several days duration, will take place immediately after the close of the Congress.

For further information write

Organization Committee
International Congress of Agriculture
Department of Agriculture
Budapest, Hungary

or

ASHER HOBSON
University of Wisconsin, Madison, Wisconsin